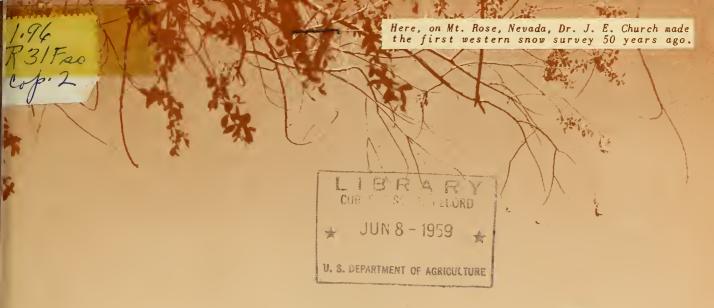
Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.





FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEY and WATER SUPPLY FORECASTS for OREGON

UNITED STATES DEPARTMENT of AGRICULTURE
SOIL CONSERVATION SERVICE
and

OREGON AGRICULTURAL EXPERIMENT STATION

Date In lived 1: t exp t were obtained by the agencies named above in cooperation with other Federal. State and private organizations.

FEB. 1, 1959

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1300 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	COOPERATING WITH	LOCATION
RIVER BASINS			
COLORADO. RIO GRANDE AND ARKANSAS	MONTHLY (FEBMAY)	COLO. EXP. STATION	FT. Collins. Colo.
COLUMBIA Includes Alaska	(YAM (YAM	I DAHO STATE ENGINEER	BOISE, IDAHO
UPPER MISSOURI	Monthly (FebMay)	Mont.Agr.Exp.Station	BOZEMAN, MONTANA
WEST-WIDE	(OCT. 1. APR. 1 AND MAY 1)	COOPERATORS	Portland, Oregon
STATES			
ARIZONA	SEMI-MONTHLY (Jan. 15-Apr.1)	SALT R. VALLEY WATER USERS ASSOCIATION	PHOENIX, ARIZONA
Ne vada	MONTHLY (FEBAPR.)	NEVADA STATE ENGINEER	RENO, NEVADA
OREGON	Monthly (JanMay)	Ore.Agr.Exp.Station	PORTLAND. OREGON
UTAH	Monthly (JanMay)	UTAH STATE ENGINEER UTAH AGR.EXP.STATION	SALT LAKE CITY, UTAH
WashingTon	Monthly (FebMay)	Wash. State Deptof Conservation	SPOKANE, WASHINGTON
WYOMING	Monthly (FebJune)	WYOMING STATE ENGINEER	CASPER, WYOMING
Copies of th	e various reports may be s	ecured from: Head, Water Supply	Forecasting Section

PUBLISHED BY OTHER AGENCIES

THER CHOW CHRIEV REPORTS

Soil Conservation Service

209 S.W. 5th Avenue, Portland 4, Oregon

BRITISH COLUMBIA MONTHLY	(FebJune)
CALIFORNIAMONTHLY	(FEBMAY)

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEY and WATER SUPPLY FORECASTS for OREGON

ISSUED

February 8, 1959

Report prepared by

W. T. FROST, Snow Survey Supervisor and

MANES BARTON, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
209 S.W. 5TH AVE. PORTLAND 4, OREGON

Issued by

THOMAS P. HELSETH

STATE CONSERVATION SERVICE

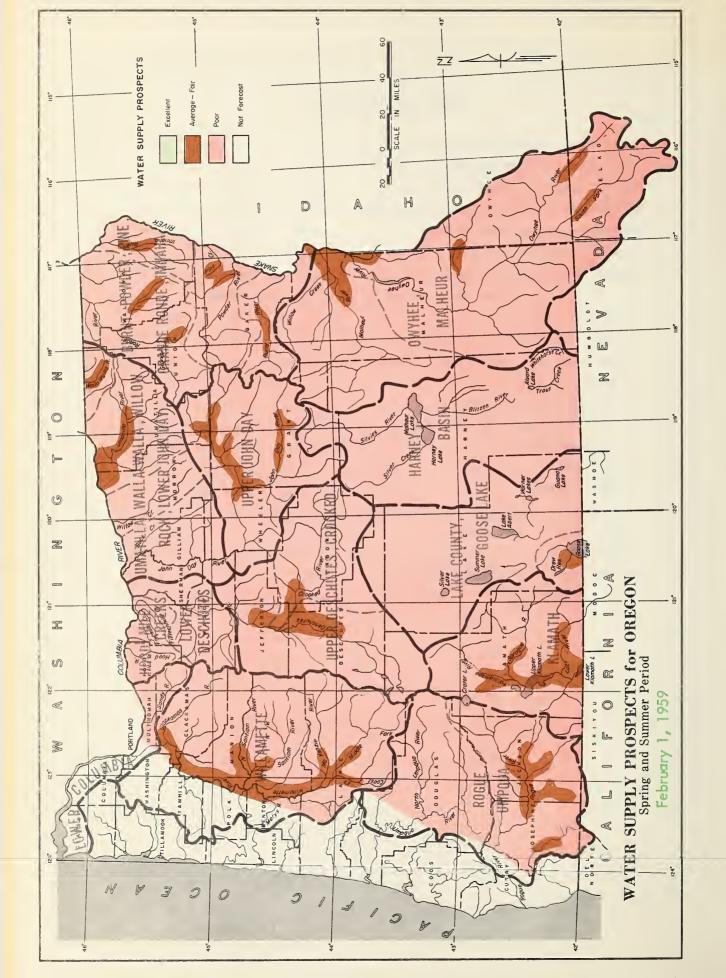
F. EARL PRICE

DIRECTOR

OREGON AGRICULTURAL
EXPERIMENT STATION

TABLE OF CONTENTS

	PAGE
WATER SUPPLY PROSPECTS FOR OREGON	GE 1
WATER SUPPLY OUTLOOK FOR OREGON	1
STORAGE STATUS OF OREGON RESERVOIRS(MAP)	3
WATER CONTENT OF SNOW ON OREGON WATERSHEDS(MAP)	4
SNOW WATER ACCUMULATION IN OREGON(GRAPH)	5
CURRENT OREGON STREAMFLOW(GRAPH)	6
VALLEY PRECIPITATION IN OREGON(MAP AND TABLE)	7
DETAILED WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS	
OWYHEE. MALHEUR	A 1
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA ARE	A 2
UMATILLA. WALLA WALLA. WILLOW, ROCK, LOWER JOHN DAY ARE	: A 3
UPPER JOHN DAY ARE	A 4
UPPER DESCHUTES, CROOKED ARE	A 5
HOOD, MILE CREEKS. LOWER DESCHUTES ARE	A 6
LOWER COLUMBIA ARE	: A 7
WILLAMETTE ARE	A 8
ROGUE, UMPQUA ARE	A 9
KLAMATH ARE	A 10
LAKE COUNTY. GOOSE LAKE ARE	A 11
HARNEY BASIN ARE	A 12
MAP AND INDEX OF OREGON SNOW COURSES(MAP)	
LIST OF COOPERATORS	OVER



WATER SUPPLY OUTLOOK for OREGON

February 1, 1959

Oregon's water supply outlook for the spring and summer months of 1959 is extremely poor except where adequate reservoir facilities are in operation. The mountain snow-pack is extremely short of water even at high elevations. Reservoired water supplies continue to gain from heavy mid-winter runoff and are well above normal. Summer streamflow is expected to range from 25 to 103 percent of normal.

SNOW-COVER:

Water content of mountain snow-cover in Oregon averages only 40 percent of the February 1 normal compared with 124 percent of normal at this date last year.

In a normal winter there is usually about 65 percent (two-thirds) of the total winter's snow-pack on the ground by February 1st. This year, however, the snow accumulation to date is only 26 percent of a normal winter's total.

It is highly unlikely that future snow storms will "make up" the present shortage of snow-cover without which the summer flow of most Oregon streams will be drastically reduced.

SOIL-MOISTURE:

The soil-mantle under the mountain snow-pack is still only partially wet except on the main Cascades and in the northeastern corner of the state where the moisture penetration is satisfactory.

RESERVOIRED WATER:

Stored water in 22 important irrigation reservoirs is now 129 percent of the average February 1 amount. A substantial "carryover" of water from last year in most of these reservoirs has been heavily supplemented by abnormal winter runoff caused by storms which brought rain rather than snow. Reservoired water will "save the day" for many irrigated acres which otherwise would receive only a token wetting because of the drastically short runoff season now foreseen.

PRECIPITATION:

State-wide precipitation ¹ in January has been mostly normal or above. For the period October 1 through January 31 it has averaged 91 percent normal at 16 selected valley stations.

¹From preliminary data furnished by U.S. Weather Bureau, Portland, Oregon.
²From preliminary data furnished by U.S. Geological Survey, Portland, Oregon.

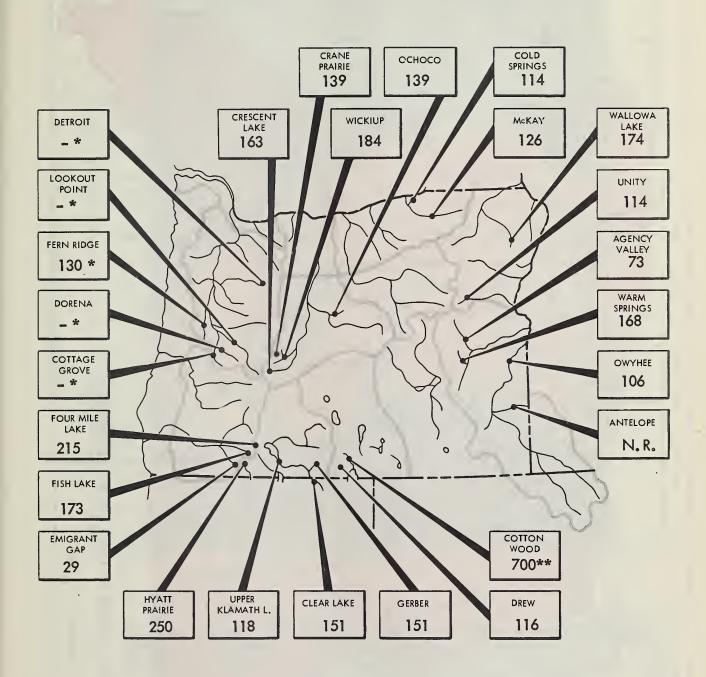
STREAMFLOW:

Present outlook for streamflow in the 1959 irrigation season (April through September) is extremely poor. Forecasts of runoff for the spring and summer months range generally from 25 percent normal on the Owyhee River to 80 percent normal on the Willamette River. The exceptions to these low forecasts are the inflow to Upper Klamath Lake which is expected to be 90 percent normal and the flow of Wallowa River tributaries which is forecast at 103 percent of normal.

Streamflow 2 during January has been much above normal throughout most of the state.

STORAGE STATUS of OREGON RESERVOIRS

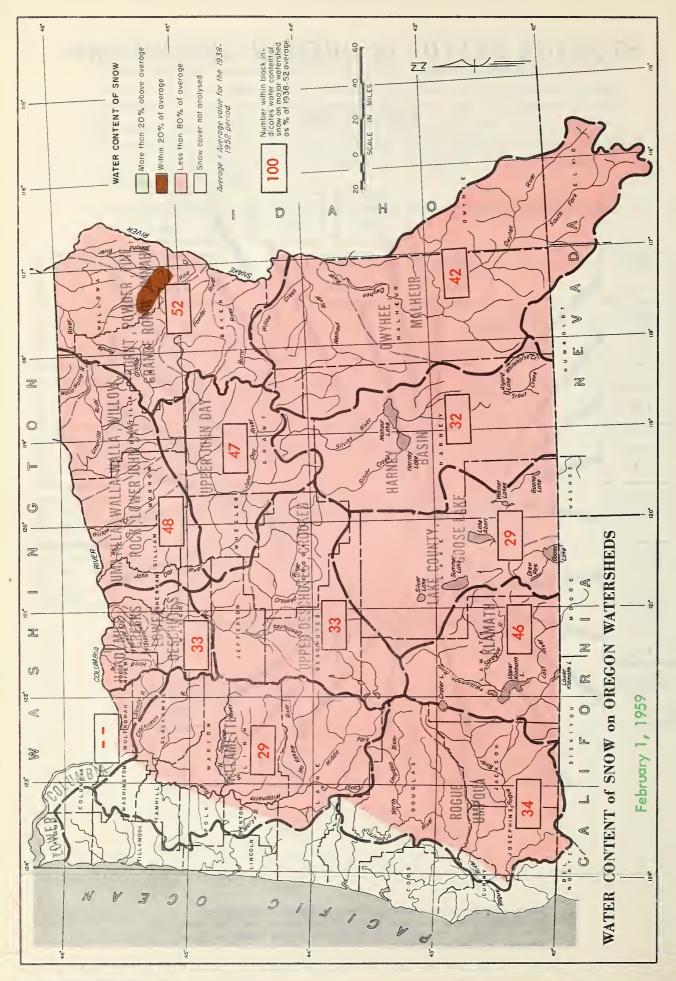
February 1, 1959



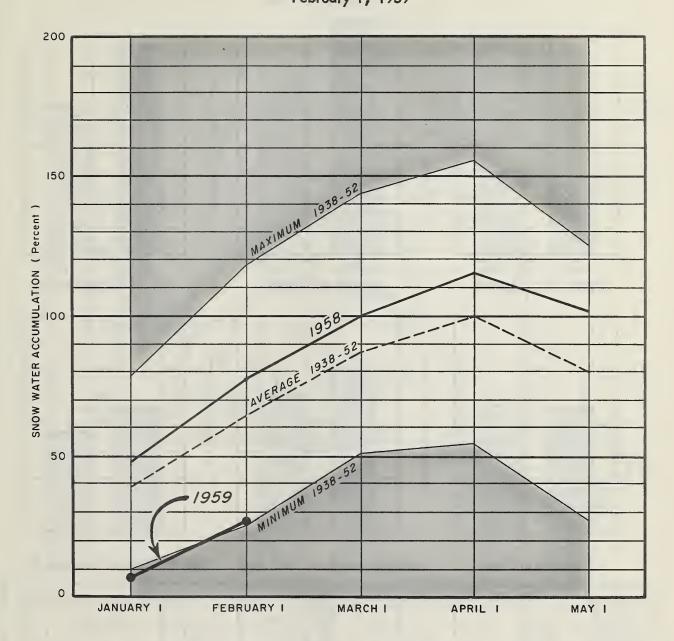
Figures given are usoble storage os percent of 1938-52, 15 year overage.

*- Multiple purpose reservoir - space reserved primorily for flood runoff.

N.R.- No report. **Contains only 700 acre feet compared to an average of 100 acre feet.



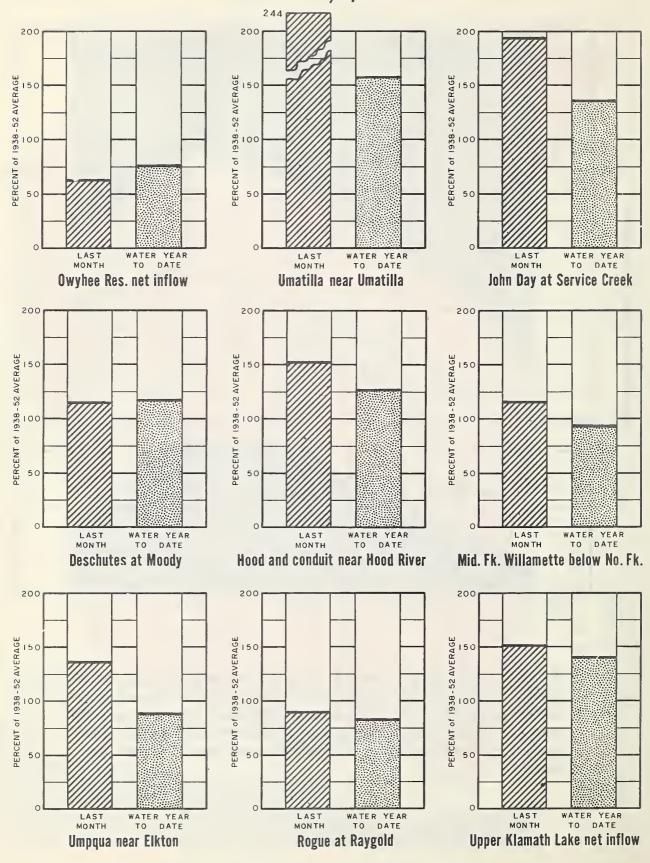
SNOW WATER ACCUMULATION in OREGON February 1, 1959



The accumulation of snow water in Oregon continues to be much below average. In a normal winter there is usually about 65 percent of the total winter's snow-pack on the ground by February 1st. This year, the second lowest of record, we have only 26 percent of the normal winter's total. The lowest year on record was 1940 when only 24 percent was observed.

CURRENT OREGON STREAMFLOW

February 1, 1959

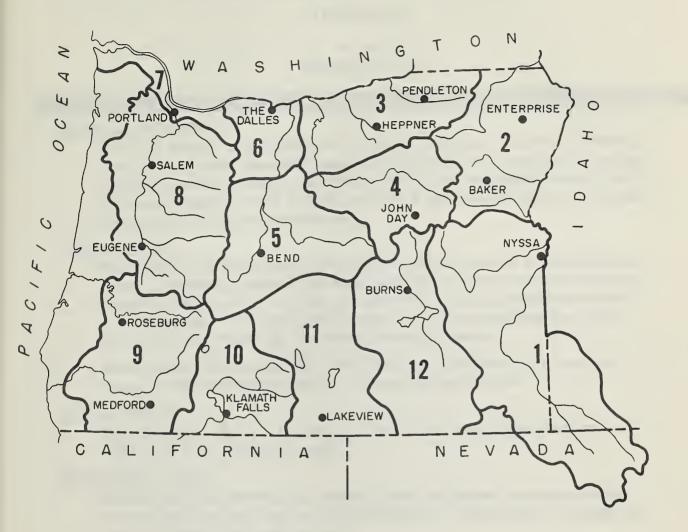


Data furnished by U.S. Geological Survey; The California Oregon Power Co..; and North and South Boards of Control Owyhee Project.

Water year begins Oct. 1, 1958.

VALLEY PRECIPITATION in OREGON®

February 1, 1959



PRE	PRECIPITATION as PERCENT of the 1938-52 AVERAGE								
STATION	LAST MONTH	WATER b YEAR TO DATE	STATION	L A S T MON TH	WATER b YEAR TO DATE				
Baker Apt. Bend Burns Enterprise Eugene Apt. Heppner John Day ^d Klamath Falls Apt.	68 74 64 149 228 228 74 62	82 45 52 143 121 123 65 41	Lakeview Medford Apt. Nyssa Pendleton Apt. Portland Apt. Roseburg Apt. Salem Apt. The Dalles	85 69 76 198 157 168 199 106	53 55 48 121 89 94 107				

^aPreliminary data furnished by the U.S. Weather Rureau. b Oct. 1 to date. c Report delayed. dAs percent of Canyon City average.



WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS OREGON

as of
February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

The 1959 outlook for irrigation water supplies in Malheur County is extremely poor for those lands dependent upon natural streamflow. Lands served by large irrigation reservoirs have a much better outlook but must expect natural flow of the feeder streams to "fall off" very early to a mere trickle unless exceptionally heavy summer rains are experienced.

SNOW-COVER

Water content of the mountain snow-pack is only 42 percent of the February 1 normal. Normally, about 71 percent of the total winter's snow pack is on the ground by February 1. This year, however, the snow accumulation to date is only 28 percent of a normal winter's total. It is highly unlikely that future snow storms will "make up" the current shortage of snow.

Data gathered during more than 500 miles of aerial observation of Malheur County's watersheds emphasizes the extreme shortage of snow.

SOIL-MOISTURE

The soil-mantle in most of Malheur County is still only partially wetted and will absorb some of the snow-melt.

RESERVOIRED WATER

Both Owyhee and Warmsprings Reservoirs now hold better than normal water supplies for this date. Agency Valley Reservoir is below normal in storage but has 24,000 acre feet ready for use.

STREAMFLOW

Forecasts for the Owyhee River for the April-September period indicate a flow about 25 percent of normal. The period March through July is forecast at about 34 percent of normal.

On the Malheur River the Middle Fork is forecast to flow 51 percent of normal during the irrigation season. The North Fork is expected to discharge about 55 percent of normal.

Runoff of smaller streams such as Bully Creek, Cottonwood Creek, and Sucker Creek is expected to be extremely short in relation to their normal flows. Flow of Jordan Creek will taper-off much earlier than usual.

Report prepared by

W. T. Frost and Manes Borton U. S. Deportment of Agriculture, Soil Conservation Service 209 S. W. Fifth Avenue, Portland, Oregon

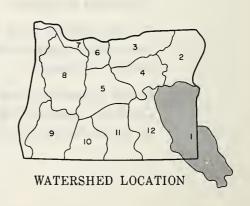
STREAM or AREA	FLOW F	PERIOD	REMARKS
STREAM OF AREA	SPRING SEASON	LATE SEASON	REMARKS
Boulder Creek	Fair	Poor	
Bully Creek	Poor	Poor	
Cow Creek	Poor	Poor	
Jordan Creek	Fair	Poor	
Jordan Valley Irrigation District	Average	Fair	
McDermitt Creek	Poor	Poor	
Oregon Canyon Creek	Poor	Poor	
Owyhee Project	Average		
Sucker Creek	Poor	Poor	
Ten Mile Creek	Poor	Poor	
Vale, Oregon Irrigation District	Average		
Warm Springs Irrigation District	Average		
Willow Creek	Fair	Poor	

STREAMFLOW FORECASTS ° (1,000 Ac. Ft.)

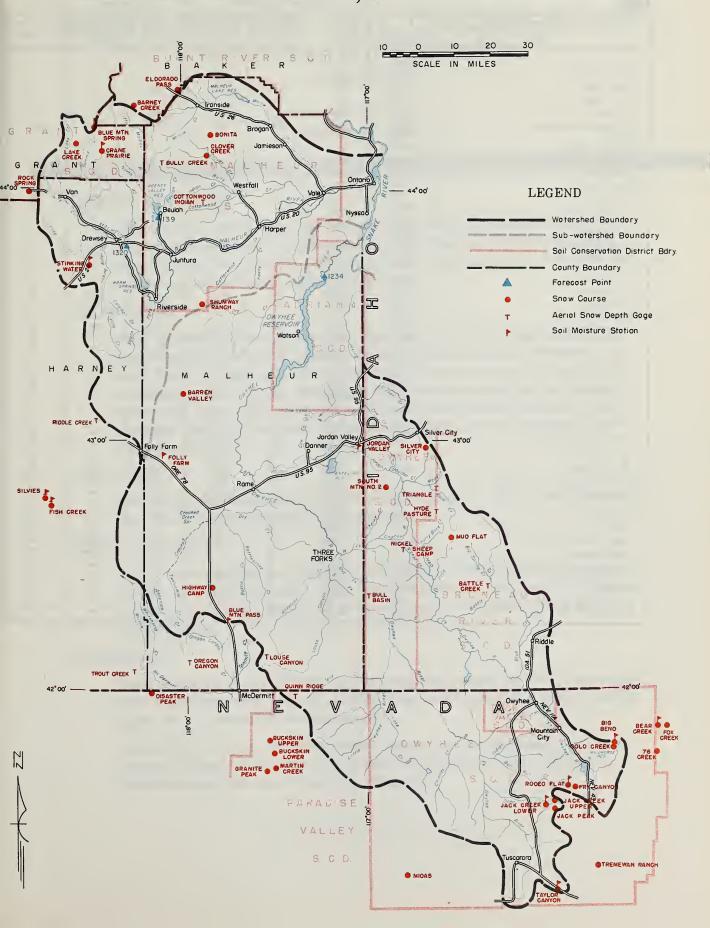
	FORECAST POINT	FORECAST	FORECAST	b	THIS YEAR
NO.	NAME	THIS YEAR	PERIOD	NORMAL	OF NORMAL
1320	Malheur near Drewsey	42	April-Sept.	82	51
139	Malheur North Fork at Beulah ^e	35	April – Sept.	64	55
1234	Owyhee Reservoir net Inflow ^h	115 d	April – Sept. April – July	458 440	25
		195	March-July	570	34

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	MEASURED (First of Month)				
TEGET VOIT	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b		
Agency Valley	60.0	24.1	22.2	32.9		
Antelope	36.5	g		4.1		
Owyhoe	715.0	485.4	466.8	456.4		
Warm Springs	191.0	119.6	93.9	70.9		



OWYHEE, MALHEUR WATERSHEDS



Owyhee, Malheur Watersheds

SNOW		CURI	RENT INFORMAT	ION	PAST R	ECORD	
SNOW COURSE		DATE OF	SNOW DEPTH	WATER	WATER CONT	ENT (Inches)	YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
		1					
Barney Creek	5950	d					
Borren Valley	4200	j					
Battle Creek ^f	5700	2-2	11	2.6	6.3		0
Bear Creek	7B00	g					
Big Bend	6700	1-27	13	3.0	8.5		1
Blue Mauntain Springs	5900	1-28	24	5.8	14.7	10.2	14
Banita	4600	d					
Buckskin, Lawer	6700	d					
Buckskin, Upper	7200	d					
Bull Basın ^f	5600	2-2	8	1.9			0
Bully Creekf	5300	2-1	0	0.0			0
Claver Creek	4100	1-28	0	0.0	2.3		0
Cattanwaad – Indianf	4320	2-1		0.0			0
Crane Praire	5375	d					
Disaster Peak	6500	d					
Eldarada Pass	4600	1-29	8	2.4	3.5		0
Fish Creek f	7900	1-28	33	7.3			0
Fax Creek	6B00	g	"	, , ,			
Fry Canyan	6700	1-27	5	1.2	9.7		3
Gold Creek	6600	1-27	l ió l	2.4	7.2		4
Granite Peak	7B00	1-30	21	5.6	11.6		Ŏ
Highway Camp	4300	1 1					
Hyde Pasture f	5B00	2-2	10	2.4	7.0		0
Jack Creek, Lower	6B00	1-28	13	1.5	6.7		0
Jack Greek, Upper	7250	1-28	23	4.6	11.2		0
Jack Peak	8420	d					
Lake Creek	5120	1-29	13	3.7	9.5		3
Lause Canyan f	6440	2-2	7	1.7			0
Martin Creek	7200	1-30	19	4.2	6.8		0
Midos	5700	d					
Mud Flot	5500	1-26	5	1.1			0
Nickel Sheep Camp	5450	2-2	10	2.4	4.2		0
Oregan Canyan ^f	7240	1-28	6	1.3			0
Quinn Ridge f	6200	2-2	6	1.4			0
Riddle Creekf	5800	1-29	6	1.3			0
Rack Springs	5100	1-26	4	1.0	5.8	4.4	15
Radea Flat	6B00	1-27	4	0.8	10.6		3
Shumway Ranch	4500	1-28	l õ l	0.0			0
Silver City	6400	1-31	20	5.1	12.3	10.2	6
Silvies f	6900	1-28	9	2.0			0
Sauth Mauntain Na. 2	6340	1-28	18	3.9	8.4	9.1	12
Stinking Water	4800	1-29	T	T	4.6	3.6	15
Taylar Canyan	6200	1-29	7	1.9	5.2	7.0	6
Tremewan Ranch	5700	1-27	6	0.0	2.1		Ĭŏ
Triangle f	5150		2	0.5	1.4		o
Traut Creek f	7800	2-2 1-28	9	2.0	104		ŏ
76 Creek	7100	1-29	9 24	4.9	10.4		Ŏ

WATER SUPPLY OUTLOOK BURNT, POWDER, PINE, GRANDE RONDE,

IMNAHA WATERSHEDS
OREGON

as of
February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

Streamflow in northeastern Oregon during the April-September period will be much below normal in 1959 except for the Wallowa and Imnaha Rivers which will be near normal. Elsewhere, only those lands served from stored water supplies will have a satisfactory year.

SNOW-COVER

Water content of the mountain snow-pack in this area averages about 52 percent of the February 1 normal. Only at Aneroid Lake is the snow-cover normal. Unusually warm temperatures have accompanied nearly all winter storms this year so that the precipitation has mostly fallen as rain rather than snow. Winter storms provide adequate summer streamflow only when the precipitation comes as snow and is delayed in runoff until the snow-melt season.

SOIL-MOISTURE

The soil-mantle under mountain snows is well wetted. This is partly due to mid-winter rain storms rather than snow storms.

RESERVOIR STORAGE

Stored water supplies are excellent with Wallowa Lake containing a supply considerably above normal. Thief Valley Reservoir is full and Unity Reservoir is reported to be storing water continuously with about 9,500 acre feet now available.

STREAMFLOW

Many forecasts of stream flows for the irrigation season are far below normal with Burnt River at 62 percent; Powder River at 60 percent; and the Grande Ronde at La Grande set at 60 percent.

The outlook is better for those streams heading on the Wallowa Mountains: Catherine Creek is forecast at 89 percent and Wallowa River tributaries forecasts range between 93 and 100 percent.

Report prepared by .

W.T Frast and Manes Bartan
U.S Department of Agriculture, Soil Canservation Service
209 S.W. Fifth Avenue, Portland, Oregon

7 C 20200 0 N

STREAM or AREA	r LOW F	PERIOD	REMARKS
STREAM OF AREA	SPRING SEASON	LATE SEASON	REMARKS
Alder Slope	Average	Fair	
Baker Valley	Fair	Poor	
Big Creek	Fair	Poor	
Clover Creek	Poor	Poor	
Cove	Fair	Poor	
Durkee	Fair	Poor	
Eagle Valley	Average	Fair	
Elgin	Fair	Poor	
Enterprise - Joseph	Average	Fair	
Hereford – Bridgeport	Average	Fair	
Imnaha River	Average	Fair	
LaGrande – Island City	Fair	Poor	
Lostine – Wallowa	Average	Fair	
North Powder River - Wolf Creek	Fair	Poor	
Pine Valley	Average	Fair	
Powder River — Elk Creek	Fair	Poor	
Summerville	Fair	Poor	
Sumpter Valley	Fair	Poor	
Union – Hot Lake	Fair	Poor	
Unity	Fair	Poor	

STREAMFLOW FORECASTS ° (1,000 Ac. Ft.)

	FORECAST POINT	FORECAST	FORECAST	NORMAL ^b	THIS YEAR AS PERCENT
NO.	NAME	THIS YEAR	PERIOD	NORMAL	OF NORMAL
1815	Bear near Wallowa	71	April-Sept.	69	103
143	Burnt near Hereford ^e	26	April-Sept.	42	62
185	Catherine near Union	63	April-Sept.	71	89
1816	Grande Ronde at LaGrande	106	April-Sept.	177	60
1814	Hurricane near Joseph	42	April-Sept.	45	93
172	Imnaha at Imnaha	310	April-Sept.	303	.102
1810	Lostine near Lostine	128	April-Sept.	124	103
152	Powder near Baker	38 37	April-Sept. April-July	63 62	60 60
1822	Wallowa East Fork near Joseph ^e	11.5	April-Sept. April-July	11.3 9.2	102
					2.57

^{**}Assuming normal meteorological conditions *** 1938-'52, 15 year period. **Number of years in 1938-'52 period **Not scheduled *** Corrected to natural flow

[†]Aerial snaw depth gage; water content estimated. ⁹Report delayed. h1938 excepted. ⁱNot surveyed. ^jPartly estimated.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	USABLE MEASURED (First of Mo					
NESERVOIN.	CAPACITY	THIS YEAR LAST YEAR NORMAL					
Unity Wallowa Lake	25.2 40.9	9•5 33•8	6.7 24.5	8.3 h 19.4			

Watershed Baundary
Sub-watershed Baundary
Sail Conservation District Bdry
County Baundary
Farecast Paint
Snaw Course
Sail Maisture Station

Burnt, Powder, Pine, Grande Ronde, Imnaha Watersheds

SNOW		CURR	RRENT INFORMATION PAST RECORD			ECORD	
SNOW COURSE NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONT	ENT (Inches)	YEARS OF C
Aneroid Lake No. 1 Aneroid Lake No. 2 Anthony Lake Barney Creek Beaver Reservoir Blue Mountain Summit Bourne Camp Carson County Line Dooley Mountain Eilertson Meadows Eldorado Pass Gold Center Goodrich Lake Lucky Strike Meacham Moss Springs Schneider Meadows Schoolmarm Summit Springs Taylor Green Tipton Tollgate	7480 7000 7125 5950 5340 5098 5800 5970 4800 5430 5400 4600 5340 6775 5050 4300 5850 5400 4775 6000 5740 5100 5070	1-31 1-31 1-23 d 1-30 1-29 1-28 1-27 1-25 1-29 1-28 i i 1-27 1-26 1-26 1-30 d d 1-29 1-27	82 57 37 13 13 29 7 3 14 6 8 23 7 30 53 2		21.8 18.4 17.7 9.0 8.2 13.9 6.9 6.2 7.6 11.4 3.5 11.8 10.7 18.1 22.8 5.6	22.4 19.2 19.1 8.6 6.1 9.6 7.3 6.6 8.1 8.4 6.1 15.5 20.5 3.0	
			*				

WATER SUPPLY OUTLOOK

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS OREGON

as of February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT

GENERAL OUTLOOK

The 1959 water supply outlook for the irrigation season in Umatilla, Morrow and Gilliam Counties continues to be fair to poor. Irrigated lands served from reservoirs have a good chance for satisfactory water supplies but lands served from the natural streamflow are apt to have a very short water season.

SNOW-COVER

Water content of the mountain snow-cover is only about 48 percent of normal. In a normal winter there is usually about 64 percent of the total winter's snowpack on the ground by February 1st. This year, however, the snow accumulation to date is only about 28 percent of a normal winter's total.

It is highly unlikely that future snow storms will "make up" the present shortage of snow-cover.

SOIL-MOISTURE

The soil-mantle under the mountain snow-pack is well wetted.

RESERVOIR STORAGE

Cold Springs and McKay Reservoirs nold 10 percent more water than last year at this date. Total storage is 120 percent of normal. With normal weather Cold Springs will probably fill but the chances of McKay filling are somewhat less.

STREAMFLOW

Forecasts of expected runoff during the irrigation season (April-September) are as follows: Walla Walla near South Fork, 70 percent of normal; Umatilla at Pendleton, 81 percent; McKay Creek, 64 percent. Only a series of heavy snow storms can improve this water outlook.

Report prepored by

W.T. Frost and Mones Barton
U. S. Department of Agriculture, Soil Conservation Service
209 S. W. Fifth Avenue, Partland, Oregon

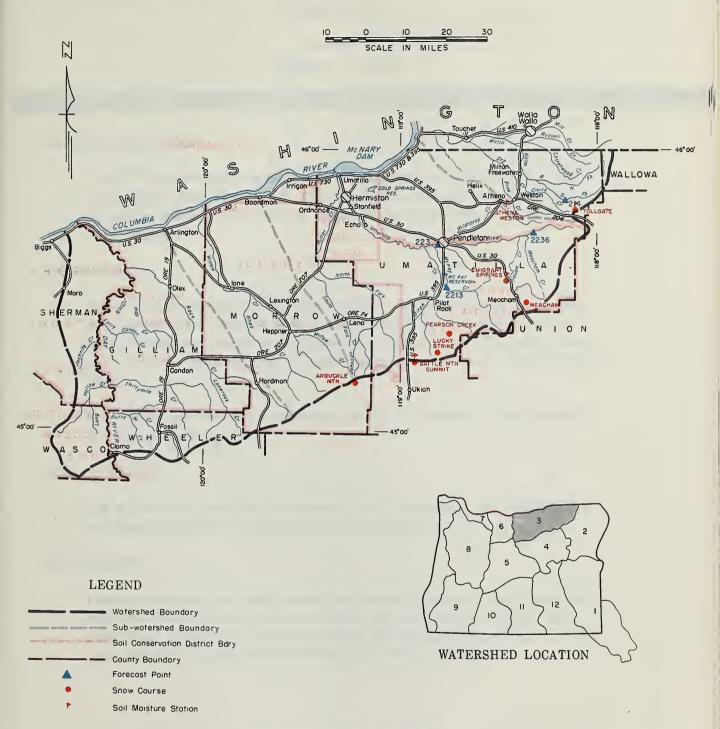
STREAM or AREA	FLOW P	ERIOD	REMARKS
	SPRING SEASON	LATE SEASON	REWARKS
Birch Creek	Fair	Poor	
Butter Creek	Fair	Poor	
Dry Creek	Fair	Poor	
Dugger Creek	Fair	Poor	
Johnson Creek	Fair	Poor	
McKay Creek	Average	Fair	
Mill Creek	Fair	Fair	
Mud Creek	Fair	Poor	
Pine Creek	Fair	Poor	
Rhea Creek	Fair	Poor	
Rock Creek	Poor	Poor	
Umatilla River (Cold Springs Res.)	Average	Fair	
Umatilla River, Main	Average	Fair	
Umatilla River (McKay Res.)	Average	Fair	
Walla Walla River, Little	Fair	Fair	
Walla Walla River, Main	Fair	Fair	
Walla Walla River, North Fork	Fair	Fair	
Walla Walla River, South Fork	Fair	Fair	
Willow Creek	Fair	Poor	
	-		

STREAMFLOW FORECASTS ° (1,000 Ac. Ft.)

NO.	FORECAST POINT NAME	FORECAST THIS YEAR		NORMAL ^b	THIS YEAR AS PERCENT OF NORMAL
2213	Mc Kay near Pilot Rock	18.0 17.5	April-Sept. April-July	28 28	64 62
2236	Umatilla near Gibbon	70	April-Sept.	87	80
223	Umatilla at Pendleton	135 125	April-Sept. April-July	167 155	81 81
214	Walla Walla, South Fork near Milton	50 41	April-Sept. April-July	71 58	70 71

SNOW	CURRENT INFORMATION			PAST RECORD			
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	ENT (Inches)	YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
Arbuckle Mountain	5400	1-29	13	4.6	12.8	7.6	14
Battle Mountain Summit	4340	1-28	1	0.6			0
Emigrant Springs	3925	1-27	2	0.6	8.8	5.3	15
Lucky Strike	5050	h					
Meacham	4300	1-27	7	2.7	10.7	6.1	15
Pearson Creek	3000	h					
Tollgate	5050	1-27	32	9•3	24,•4	16.9	15

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS



RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	MEASURED (First of Month)				
KESEKVOJIK	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b		
Cold Springs Mc Kay	50.0 74.0	33.6 43.6	34.0 35.2	29.6 34.5		

WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS **OREGON**

as of February 1, 1959

II S DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT

GENERAL OUTLOOK

The 1959 water supply outlook for the irrigation season (April-September) in the Upper John Day area is fair. Mountain snow-cover has improved in the past month but must increase considerably to produce a satisfactory water season.

SNOW-COVER

Water content of the mountain snow-cover is about 47 percent of normal. In a normal winter there is usually about 65 percent (two-thirds) of the total winter's snow-pack on the ground by February 1st. This year, however, the snow accumulation to date is only 32 percent of a normal winter's total.

It is highly unlikely that future snow storms will "make up" the present shortage of snow-cover.

SOIL-MOISTURE

The soil-mantle under the snow-pack is only moderately wet although the moisture penetration has been better than a year ago.

STREAMFLOW

Forecasts of expected runoff during the irrigation season (April-September) indicate flows about 82 percent normal can be expected in the main John Day. Flows of smaller streams will be somewhat less with real shortages occuring in those streams heading in lower elevations.

Report prepared by:

W. T. Frost and Manes-Barton

U. S. Deportment of Agriculture, Soil Conservation Service 209 S. W. Fifth Avenue, Portland, Oregon

STREAM or, AREA	FLOW P	ERIOD	REMARKS
STREAM OF, AREA	SPRING SEASON	LATE SEASON	REWARKS
Beech Creek	Fair	Poor	
Beech Creek-Fox-Long Creek	Fair	Poor	
Bridge-Mountain Creeks	Fair	Poor	
Camas Creek	Fair	Fair	
Cherry Creek	Fair	Poor	
Indian-Pine Creeks	Fair	Fair	
John Day River, Main Fork	Average	Fair	
John Day River, Mid. Fork	Average	Fair	
John Day River, North Fork	Average	Fair	
John Day River, South Fork	Average	Fair	
Monument – Kimberly	Average	Fair	
Strawberry Creek	Fair	Fair	

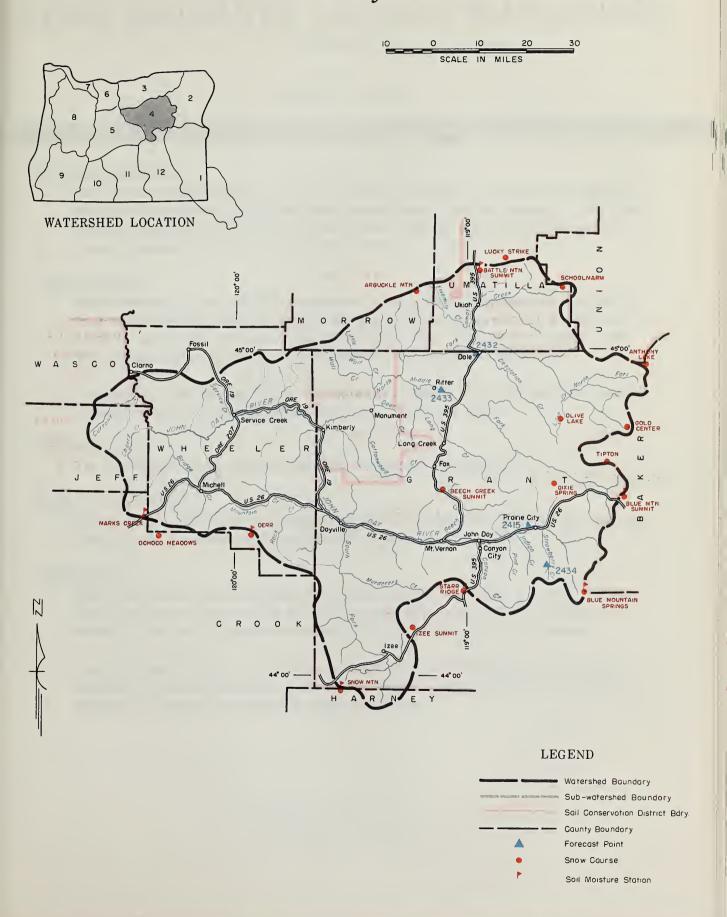
STREAMFLOW FORECASTS ° (1,000 Ac. Ft.)

NO.	FORECAST POINT NAME	FORECAST THIS YEAR			THIS YEAR AS PERCENT OF NORMAL
2415	John Day at Prairie City	41 37	April-Sept. April-July	50 45	82 82
2433	John Day, Mid Fork at Ritter	100	April-Sept.	122	82
2432	John Day, North Fork near Dale	205	April-Sept.	248	83
2434	Strawberry near Prairie City	6.4	April-Sept.	8.3	77

11011							
SNOW		CURF	RENT INFORMAT	TION	PAST RECORD		
SNOW COURSE	SNOW COURSE		SNOW DEPTH	WATER CONTENT	WATER CONTENT (Inches)		YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
Anthony Lake	7125	1-23	37	8.4	17.7	19.1	12
Arbuckle Mountain	5400	1-29	13	4.6	12.8	7.6	14
Battle Mountain Summit	4340	1-28	1	0.6			0
Beech Creek Summit	4800	1-28	7	1.1	4.6	4.3	15
Blue Mountain Springs	5900	1-28	24	5.8	14.7	10.2	14
Blue Mountain Summit	5098	1-29	13	3.0	8.2	6.1.	15
Derr	5670	1-26	9	2.5	6.8	6.7	• 15
Dixie Springs	6650	d					
Gold Center	5340	1-28	23	5.4	11.8	8.4	13
Izee Summit	5293	1-27	8	2.5	7.2	6.0	15
Lucky Strike	5050	h					
Marks Creek	4540	1-27	T	T	3.7	3.9	15
Ochoco Meadows	5200	1-28	13	3.7	9.1	7•9	14
Olive Lake	6000	1-28	30	7.3	17.3	11.4	15 5
Schoolmarm	4775	1-30	2	0.7	5.6	3.0	5
Snow Mountain	6300	d					
Starr Ridge	5156	1-30	6	1.5	4.8	4.3	15
Tipton	5100	1-29	18	3.4	10.4	7.4	12

 $^{^{9}}$ Assuming normal meteorological canditions. 9 1938 - 9 52, 15 year period. 9 Number of years in 1938 - 9 52 period. 9 Not scheduled. 9 Corrected to natural flow. 9 Not surveyed

UPPER JOHN DAY WATERSHEDS





WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

as of
February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

Satisfactory water supplies in the 1959 irrigation season in the Deschutes-Crooked area are in sight only for those lands served from the major reservoirs. All other irrigated lands can expect severely short water supplies unless the balance of the winter brings very heavy accumulations of snow.

SNOW-COVER

Water content of the mountain snow-cover is only about 33 percent of the normal. In a normal winter there is usually about 62 percent (two-thirds) of the total winter's snow-pack on the ground by February 1st. This year, however, the snow accumulation to date is only 18 percent of a normal winter's total.

It is possible, but very unlikely, that future snow storms will "make up" the present shortage of snow. The need is for snow storms, not rain storms.

SOIL-MOISTURE

The soil-mantle under the snow-pack is moderately well wetted.

RESERVOIRED WATER

Stored water supplies are much above the normal amounts for February 1st and will "save the day" for many irrigated acres this year.

STREAMFLOW

Flow of the Deschutes at Benham Falls is forecast at 78 percent of normal. Little Deschutes River is forecast at only 55 percent of normal. Squaw Creek will probably flow only 78 percent of normal with Tumalo forecast at 71 percent.

Crooked River will drop to a 40 percent normal flow this irrigation season with Ochoco Creek producing about 36 percent normal. Trout Creek and other small streams will have an extremely short flow this year.

Report prepared by

W. T. Frost and Mones Barton
U. S. Department of Agriculture, Soil Conservation Service
209 S. W. Fifth Avenue, Partland, Oregon

STREAM or AREA	FLOW F	PERIOD	REMARKS
STREAM OF AREA	SPRING SEASON	LATE SEASON	REMARKS
Arnold Irrigation District	Average	Average	
Bear Creek	Fair	Poor	
Beaver Creek	Fair	Poor	
Camp Creek	Fair	Poor	
Central Oregon Irrigation District	Average	Average	
Crooked River	Fair	Poor	
Deschutes River	Average	Fair	
Hay-Trout Creeks	Poor	Poor	
Lone Pine Irrigation District	Average	Average	
Mill Creek	Poor	Poor	
North Unit Irrigation District	Average	Average	
Ochoco Creek	Poor	Poor	
Ochoco Irrigation District	Average	Fair	
Sisters Irrigation District	Fair	Poor	
Snow Creek Irrigation District	Fair	Poor	
Squaw Creek Irrigation District	Fair	Poor	
Swalley Ditch	Excellent	Excellent	
Tumalo Project	Average	Fair	
Walker Basin Irrigation District	Fair	Fair	

STREAMFLOW FORECASTS ° (1,000 Ac. Ft.)

	FORECAST POINT	FORECAST	FORECAST	NORMAL ^b	THIS YEAR
NO.	NAME	THIS YEAR	PERIOD		OF NORMAL
3220a	Crane Prairie Reservoir net inflow	86	April - Sept.	121	71
323	Crescent at Crescent Lake ^e	10.5	April - Sept.	21	50
342	Crooked near Post	50	April - Sept.	1249	40
317	Deschutes at Benham Falls ^e	400 270	April - Sept. April - July	511 346	78 78
3225	Deschutes below Snow Creek	42	April- Sept.	60	70
314	Deschutes, Little near Lapine ^e	50 44	April - Sept. April - July	90 79	55 56
3421	Ochoco Reservoir net inflow	10.0	April - Sept.	28	36
3212	Odell near Crescent	22	April - Sept.	29	75
335	Squaw near Sisters	38	April - Sept.	49	78
338 A	Tumalo near Bend ^e	34	April- Sept.	48	71

**Assuming narmal meteorological canditions ** 1938-'52, 15 year period. **Number of years in 1938-'52 period. **And scheduled. **Carrected to return flow. **

**Aerial snow depth gage; water cantent estimated. **Repart delayed. **1938-'39 excepted. **

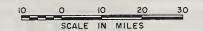
**In 1938-'52 period. **And scheduled. **Carrected to return flow. **

**In 1938-'52 period. **And scheduled. **

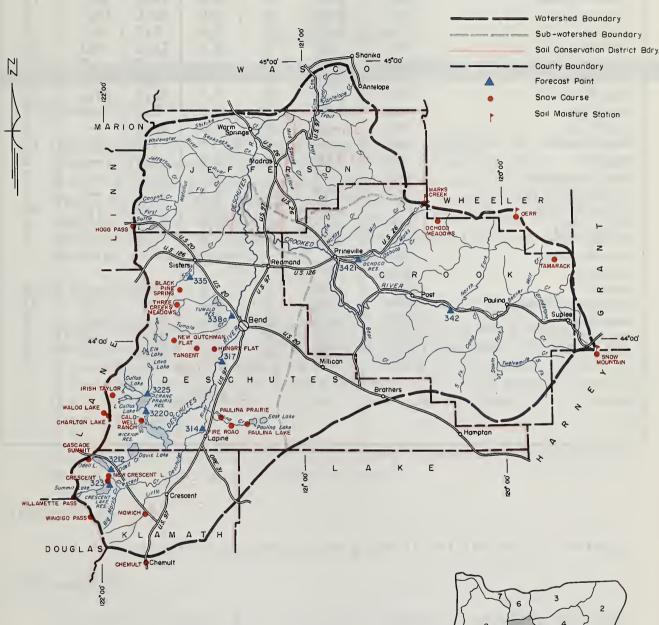
**In 1938-'52 period. **

**In 1938-'52

UPPER DESCHUTES, CROOKED WATERSHEDS

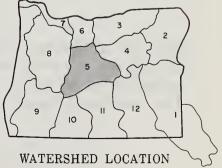


LEGEND



RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	MEASURED (First of Month)				
RESERVOIN	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b		
Crane Prairie Crescent Lake Ochoco Wickiup	55.3 80.0 46.0 200.0	47.4 64.8 26.3 175.5	50.8 48.9 24.7 175.7	34.1 ⁱ 39.8 ^j 18.9 95.3 ^k		



WONS	SNOW		RENT INFORMA	TION	PAST RECORD		
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONTENT (Inches)		YEARS OF
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
Black Pine Spring	4600	1-23	0	0.0			1
Caldwell Ranch	4400	1-28	3	T	10.4	6.1	8
Cascade Summit	4880	1-29	26	6.9	20.4	20.7	15
Charlton Lake	5750	1-27	21	6.4	24.4	13.2	6
Chemult	4760	1-29	13	3.6	9.5	8.5	15
Crescent Lake	4760	1-20	8	2.4	15.1	8.3	13
Derr	5670	1-26	9	2.5	6.8	6.7	15
Fire Road	5050	1-19	T	T	6.0		0
Hogg Pass	4755	1-27	29	7.5	34.7	27.4	15
Hungry Flat	4400	1-22	0	0.0	7.2		1
Irish-Taylor	5500	1-28	36	9.0	32.9		1
Marks Creek	4540	1-27	T	T	3.7	3.9	15
Mowich	4700	1-22	0	0.0	8.4		0
New Crescent Lake	4800	1-20	11	3.1	16.0		σ
New Dutchman Flat	6400	1-22	41	9.51	34.5		3
Ochoco Meadows	5200	1-28	13	3.7	9.1	7.9	14
Paulina Lake	6330	1-19	11	4.5	14.5		0
Paulina Prairie	4285	1-19	T	T	T		0
Snow Mountain	6300	d					
Tamarack	4800	d					
Tangent	5400	1-22	6	T	17.4		1
Three Creeks Meadows	5600	1-23	8	3.0		11.2	13
Waldo Lake	5500	1-28	22	6.8	24.1	14.6	6
Willamette Pass	5600	1-21	25	7.7	37.5	-	2 2
Windigo Pass	5800	1-20	22	6.4	41.4		2

WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS OREGON

as of
February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STAYION

GENERAL OUTLOOK

The outlook for 1959 irrigation water supplies in the Hood River Valley and Wasco County areas is fair to poor. Hood River is expected to produce fair water supplies along with White River, while the Mile Creeks will furnish poor water supplies. The situation can be improved only by the occurence of several extremely heavy snow storms during the remainder of the winter.

SNOW-COVER

Water content of the mountain snow-cover is only about 33 percent of the February 1st normal. In a normal winter there is usually about 62 percent (two-thirds) of the total winter's snow-pack on the ground by February 1st. This year, however, the snow accumulation to date is only 26 percent of a normal winter's total.

It is highly unlikely that future snow storms will "make up" the present shortage of snow-cover.

SOIL-MOISTURE

The soil-mantle under the snow-pack is satisfactorily wetted.

STREAMFLOW

The runoff of Hood River for the irrigation season is forecast at 78 percent of normal. Likewise, White River is expected to discharge about 72 percent of normal. The Mile Creeks will have a short season this year with flows tapering off much earlier than normal.

Report prepared by:

W.T. Frast and Manes Bartan
U. S. Deportment of Agriculture, Soil Conservation Service
209 S. W. Fifth Avenue, Portland, Oregon

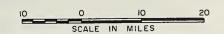
STREAM OF AREA	FLOW F	PERIOD	BEMARKS
STREAM OF AREA	SPRING SEASON	LATE SEASON	REMARKS
Aldridge Ditch	Poor	Poor	
Badger Creek	Poor	Poor	C 0.3 mills
Dee Irrigation District	Fair	Poor	
East Fork Irrigation District	Fair	Poor	
Farmers Irrigation District	Fair	Poor	
Glacier Irrigation District	Fair	Poor	
Hood River	Fair	Poor	1
Irrigation District	1021	1001	
Juniper Flat	Fair	Poor	
Middle Fork Irrigation District	Fair	Poor	
Mile Creeks	Poor	Poor	A 2 10 10 10 10 10 10 10 10 10 10 10 10 10
Mill Creek	Poor	Poor	
Mount Hood Irrigation District	Fair	Poor	111 111 111 111
Rock - Gate - Threemile Creeks	Poor	Poor	Annual Laboratory
Tygh Creek	Poor	Poor	
White River	Fair	Poor	
			The District of the last
			The state of the s
			the section of the se

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL ^b	THIS YEAR AS PERCENT OF NORMAL
437	Hood near Hood River ^e	240 200	April-Sept. April-July	306 260	78 77
438	Hood, West Fork near Dee	115 95	April-Sept. April-July	147 127	78 75
3613	White below Tygh Valley	110 95	April-Sept. April-July	152 135	72 70

SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	ENT (Inches)	YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
Brooks Meadows Clear Lake Greenpoint Reservoir Phlox Point Red Hill Still Creek Tilly Jane	4300 3800 3400 5600 4400 3700 6000	d 1-29 1-26 1-28 1-23 1-29 1-17	9 7 65 15 20 30	1.8 1.3 18.0 5.9 4.7 12.5	7.1 7.6 46.7 29.4 15.4	19.0 37.9 15.6 37.9	2 5 15 4 15 5

^{*}Assuming normal meteoralogical conditions * 1938 - '52, 15 year period. *Number of years in 1938 - '52 period. *Not scheduled. *Corrected to natural flow. *Aerial snow depth gage; water content estimated. *9 Report delayed.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS



WATERSHED LOCATION





WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

*as of*February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

The water supply outlook for the spring and summer flow of the Columbia River is slightly below normal for the 1959 season.

SNOW-COVER

Snow-cover and soil-moisture conditions have improved slightly in relation to normal throughout the high watersheds of the Columbia Basin. The snow-pack varies from above normal in northern Idaho, Montana and British Columbia to one of the lightest years of record in the southern and western portions of the basin.

The generally warm conditions which have prevailed at high altitudes have melted snow on the south slopes of the mountains to unusually high elevations. These slopes are usually heavily coated with snow until after March 1st.

SOIL-MOISTURE

The soil-mantle beneath the snow is still relatively dry at high elevations, but rains during January have partially primed the soil below the snow-line. In general, the combination of dry soil and below normal snow-pack indicates that 1959 could be a low water-supply year.

STREAMFLOW

Assuming normal meteorological conditions for the balance of the water year, flow of the Columbia River near The Dalles for April-September is forecast at 98 percent of the normal (1938-52).

Report prepared by W.T. Frost and Manes Barton

U. S. Department at Agriculture , Sait Conservation Service 209 S. W. Fitth Avenue , Portland , Oregon M W Nelson

U.S. Department of Agriculture , Soil Conservation Service

PO Box 2709 Boise , Idaho

FORECAST POINT	FORECAST THIS YEAR	FORE CAST PERIOD	NORMAL b	THIS YEAR AS PERCENT OF NORMAL
Columbia at The Dalles	95,000 63,000 d	AprSept. AprJune May-June	97,000 65,900 51,800	98 96

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STRE	EAMFLOW C (1,000 A	.f.)	PEAK e	DATE
TEAR	APR SEPT.	APR JUNE	MAY - JUNE	(1,000 c.f.s.)	DATE
19 38 19 39 19 40 19 41 19 42 19 43 19 45 19 45 19 46 19 47 19 48 19 49 19 50 19 51	103,400 80,800 77,400 69,100 90,300 115,000 61,900 81,500 108,000 100,300 130,500 95,700 120,600 113,000 107,700	72,600 53,300 52,100 43,500 58,100 75,300 39,200 54,600 75,400 70,000 94,600 71,400 74,700 75,600 77,500	56,700 40,500 38,900 33,500 44,500 52,400 32,100 47,300 59,600 56,800 81,900 56,000 61,200 59,100 57,300	605 387 369 272 428 541 326 505 581 536 999 622 744 597 557	May 31 May 21 June 5 June 11 June 18 June 21 June 8 May 30 May 11 May 31 May 18 June 25 May 26 May 28
1938-52 Avg. 1953 1954 1955 1956 1957 1958	97,000 100,600 119,500 99,500 131,200 115,200 97,696	65,900 64,900 70,500 58,300 97,100 79,200 71,953	51,800 55,800 59,300 50,300 75,800 67,200 58,644	538 609 561 545 815 700 593	June 17 May 23 June 3 June 3 May 22 May 31

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria) f

VANCOUVER 8	FLOW AT	CANDY	CAUVIE IS		DISTRICT		L DEAUED	L WOOD CON
GAGE	THE DALLES	SANDY	SAUVIE IS.	SCAPPOUSE		RAINIER	BEAVER	WOODSON
(WEATHER BU.)	(1000 cfs)				RIVER MI.			
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 34 (1894) 33 32 31	1,290 1,220 1,150 1,090 1,030	42.2 41.3 40.4 39.5 38.5	35.3 34.4 33.3 32.2 31.2	34. 4 33. 4 32. 3 31. 2	29 .6 28 . 5 27 . 5 26 . 5	22.9 22.0 21.0 20.0	18.3 17.5 16.7 15.9	16.2 15.5 14.8 14.1
30 (1948) 29 (1876) 28 27 26	970 920 870 820 770	37.4 36.2 35.1 33.8 32.5	30.1 29.1 28.1 27.1 26.1	30.1 29.0 28.1 27.3 26.4 25.3	25.5 24.6 23.9 23.3 22.4 21.4	19.1 18.3 17.7 17.2 16.6 15.8	15.1 14.4 13.8 13.3 12.8 12.3	13.4 12.7 12.1 11.6 11.2 10.8
(1933) 25 (1950) 24 (1957) 23 22 (1953) 21	7 30 69 0 6 50 6 10 570	31.8 30.3 29.5 28.6 27.6	25.1 24.0 22.9 21.9 21.0	24.1 23.0 21.9 20.8 19.8	20.4 19.5 18.7 17.6 16.6	15.1 14.5 13.9 13.3 12.7	11.9 11.6 11.3 11.0 10.7	10.5 10.3 10.1 9.9 9.7
20 19 18 17 16	540 510 480 450 430 400	26.5 25.5 24.4 23.4 22.4 21.4	20.1 19.2 18.3 17.4 16.5	18.9 18.0 17.2 16.4 15.5	15.7 15.0 14.3 13.7 13.0 12.0	12.2 11.8 11.4 11.0 10.5 9.8	10.3 10.0 9.8 9.6 9.3 8.8	9.5 9.3 9.1 8.9 8.7 8.3

^aAssuming normal meteorological conditions.

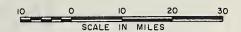
^b1938-'52, 15 year period.

^cObserved flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry florse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer.

^dNot scheduled.

^eObserved peak

LOWER COLUMBIA WATERSHEDS





 f_{Based} on Corps of Engineers automatic water stage recorder data. $g_{Vancouver}$ Weather Bureau gage zero is 2.64' above M.S.L. All other readings are in feet above M.S.L.



WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

as of
February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

The 1959 water supply outlook for the spring and summer months in the Willamette Valley is only fair with some late season shortages certain. An extremely short snow-pack coupled with limited irrigation reservoir facilities will produce a relatively mediocre water season.

SNOW-COVER

Water content of the mountain snow-pack is only 29 percent of normal. A normal winter's snow-cover is usually 62 percent (two-thirds) on the ground by February 1st. This year the snow accumulation is only 19 percent of a normal winter's "snow crop".

Winter storms have come as rains rather than snow this year due to unusually warm temperatures. Snow is needed to produce extended summer streamflow.

SOIL-MOISTURE

Soil-mantle in the mountain watersheds is satisfactorily wet.

RESERVOIR STORAGE

Multiple-purpose reservoirs are close to their normal levels for this time of year.

STREAMFLOW

Forecasts for spring and summer season streamflow in the Willamette Valley are all below normal and range from 83 percent of normal on the Clackamas down to 66 percent of normal on the South Santiam.

Flow of the Willamette at Salem is forecast at 80 percent of normal. The above forecasts assume normal meteorological conditions will prevail during the balance of the year.

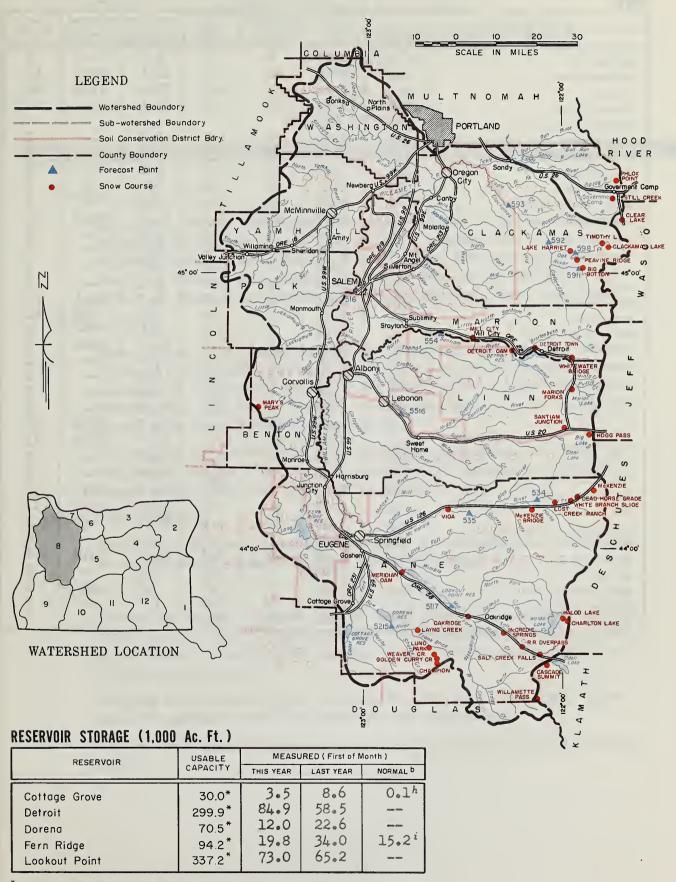
Report prepored by:

W.T Frost and Manes Borton
U.S Department of Agriculture, Sail Conservation Service
209 S.W. Fifth Avenue, Partland, Oregon

STREAM or AREA	FLOW P	ERIOD	REMARKS	
3.11eam 3. anea	SPRING SEASON	LATE SEASON	n EMANKS	
Calapooya Clackamas McKenzie Mollalla Santiam, North Santiam, South Willamette, Coast Fork Willamette, Middle Fork	Fair Average Average Fair Average Fair Average Average Average	Poor Fair Fair Poor Fair Fair Fair		

NO.	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL ^b	THIS YEAR AS PERCENT OF NORMAL
		128	Aprīl-Sept.	164	78
5911	Clackamas at Big Bottom	105			79
593	Clackamas near Cazadero	645	April-July April-Sept.	133 777	83
333	Clackanias near cazacero	555	April-July	669	83
592	Clackamas above Three Lynx	485	April-Sept.	599	81
332	Cidekullids above Tillee Lynx	405	April-July	507	80
534	McKenzie at Mckenzie Bridge	430	April-Sept.	565	76
	mercanzia di menanzia birtaga	325	April-July	430	76
535	McKenzie near Vida	885	April-Sept.	1195	74
		710	April -July	978	73
598	Oak Grove Fork above Power Intake	150	April-Sept.	186	81
		117	April -July	145	81
5215	Row near Dorena	75	April - Sept.	101	74
		70	April-July	96	73
554	Santiam, North at Mehama ^e	580	April-Sept.	842	69
	,	500	April-July	748	67
5516	Santiam, South of Woterloo	370	April-Sept.	558	66
		340	April-July	525	65
5117	Willamette, Mid. Fork below North Fork	550	April-Sept	798	69
	near Oakridge	490	April-July	705	70
516	Willamette at Salem ^e	3480	April-Sept.	4355	80
		3090	April-July	3863	80

WILLAMETTE WATERSHEDS



^{*} Multiple purpose reservoir-space reserved primorily for flood runoff.

SNOW		CURF	RENT INFORMA	TION	PAST F	RECORD	
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	ENT (Inches)	YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
Big Bottom	2118	1-29	T	T	4.3		2
Cascade Summit	4880	1-29	26	6.9	20.4	20.7	15
Champion	4500	1-26	2	0.5	21.4	17.0	14
Charlton Lake	5750	1-27	21	6.4	24.4	13.2	6
Clackamas Lake	3400	d					
Clear Lake	3800	1-29	9	1.8	7.1		2
Dead Horse Grade	3800	1-26	T	T	10.1		3
Detroit Town	1600	1-27	0	0.0	0.0		3 3 3
Detroit Dam	1580	1-27	0	0.0	0.0		3
Golden Curry Creek	3136	1-26	0	0.0	0.0		3
Hogg Pass	4755	1-27	29	7.5	34.7	27.4	15
Lake Harriet	3400	1-30	0	0.0	0.51		2 3
Layng Creek	1200	1-26	0	0.0	0.0		3
Lost Creek Ranch	1746	1-26	0	0.0	0.0		1
Lund Park	1740	1-26	0	0.0	0.0		3
Marion Forks	2730	1-27	2 3	1.0	9.8	11.1	12
Marys Peak	3620	2-1	3	0.8	0.3	5.8	10
McCredie Springs	2120	1-29	0	0.0	0.0		3 9
McKenzie	4800	1-26	19	6.6	36.1	26.4	
McKenzie Bridge	1372	1-26	0	0.0	0.0		4
Meridian Dam	750	1-29	0	0.0	0.0		2
Mill City	826	1-27	0	0.0	0.0		3
Oakridge	1310	1-29	0	0.0	0.0	70.0	3
Peavine Ridge	3500	1-30	16	4.0	12.7	12.0	15
Phlox Point	5600	1-28	65	18.0	46.7	37•9	15
Railroad Overpass	2750	1-29	0	0.0	0.0		3
Salt Creek Falls	4000	1-29	5	0.8	4.8	70/	12
Santiam Junction	3990	1-27	5	1.7	18.8	18.6	
Still Creek	3700	1-29	20	4.7	15.4	15.6	15
Timothy Lake	3295	1-30	12	2.6	11.2		0
Vida	800	1-26	0	0.0	0.0	71 (0
Waldo Lake	5500	1-28	22	6.8	24.1	14.6	6
Weaver Creek	2440	1-26	0	0.0	0.0		2
White Branch Slide	2800	1-26	0	0.0	0.0		3
Whitewater Bridge	2175	1-27	0	0.0	1.7		3 2
Willamette Pass	5600	1-21	25	7.7	37.5		1 4

WATER SUPPLY OUTLOOK ROGUE, UMPQUA WATERSHEDS OREGON

as of February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

The present outlook is for a short water supply for most of the Rogue-Umpqua watersheds of southern Oregon. Stored water supplies will enable the irrigation districts to serve their lands with a nearly full supply in most cases. Everything depends upon normal winter conditions for the balance of the winter. To improve this outlook would require extremely heavy snow storms.

SNOW-COVER

Water content of the mountain snow-cover on Rogue-Umpqua watersheds is only 34 percent of the February 1 normal. In a normal winter, the snow accumulation is about 59 percent of the total winter's accumulation by February 1st. This year, however, snow accumulation to date is only 23 percent of an average winter's accumulation.

It is possible, but extremely unlikely, that future snow storms will "make up" the present shortage of snow-cover without which most southern Oregon streams will produce short water supplies this year.

RESERVOIR STORAGE

Stored water in local irrigation reservoirs is 169 percent of the February 1st normal and is slightly better than last year at this date.

STREAMFLOW

Flow of the Rogue at Raygold and at Grants Pass is forecast at 65 percent normal for the 6 month irrigation season. The Umpqua River is forecast at 73 percent normal. The Applegate and the Illinois Rivers are forecast at 82 and 80 percent respectively.

Forecasts for the small reservoir systems of Fourmile Lake, Fish Lake, Hyatt Lake, are estimated at 57, 50, and 40 percent respectively.

Flow of small streams heading in low elevations will be extremely short this season.

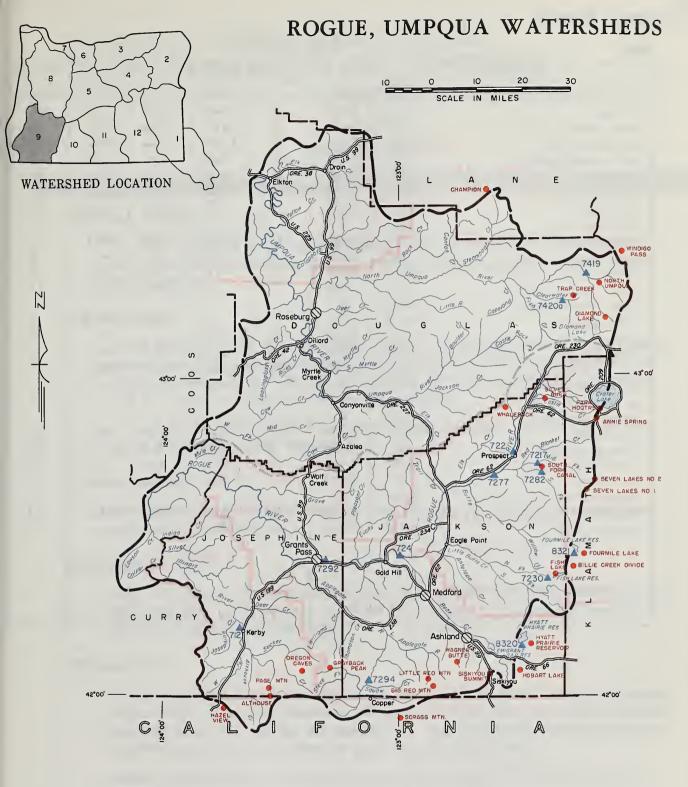
Report prepored by

W.T. Frast and Manes Bartan U.S. Department of Agriculture, Sail Conservation Service 209 S. W. Fifth Avenue, Partland, Oregon

STREAM OF AREA			REMARKS	
	SPRING SEASON	LATE SEASON	REMARKS	
Althouse Creek	Fair	Poor		
Applegate River, Big	Average	Fair		
Applegate River, Little	Average	Fair		
Ashland Creek	Fair	Poor		
Butte Creek, Little	Average	Fair		
Cow Creek	Fair	Poor		
Deer Creek	Fair	Poor		
Eagle Point Irrigation District	Average	Average		
Elk Creek	Fair	Poor		
Emigrant Creek (above Reservoir)	Fair	Poor	1111111	
Evans Creek	Fair	Poor		
Bold Hill Irrigation District	Average	Average	[00-1 034	
Grants Pass Irrigation District	Average	Fair	{ Canal alternation is probable.	
Grave Creek	Fair	Poor	(probable.	
Ilinois River, East Fork	Average	Fair		
Ilinois River, West Fork	Average	Fair		
Medford Irrigation District	Average	Fair		
leil Creek	Fair	Poor	1-	
Red Blanket Creek	Average	Fair		
Rogue River	Average	Fair		
Rogue River Valley Irrigation District	Average	Fair		
Sucker Creek	Average	Fair		
Table Rock Irrigation District	Average	Fair		
Talent Irrigation District	Average	Fair		
Thompson Creek	Average	Fair		
Vagner Creek	Fair	Poor		
Williams Creek	Average	Fair		

FORECAST POINT		FORECAST	FORECAST	NORMAL ^b	THIS YEAR AS PERCENT
NO.	NAME	THIS YEAR	PERIOD	NORMAL	OF NORMAL
7294	Applegate near Copper	95	April – Sept.	116 ^h	82
7420a	Clearwater above Trap Creek ^e	47	April-Sept.	64	73
8321	Fourmile Lake net inflowe	4.0	April – Sept.	7.0	57
8320	Hyatt Reservoir net inflowe	2.4	April – Sept.	6.0	40
712	Illinois River near Kerby ^e	145	April – Sept.	181	80
7230	Little Butte, North Fork below Fish Lake ^e	7.5	April – Sept.	14.9	50
722	Rogue above Prospect	200	April – Sept.	316	63
		170	April – July	265	64
7217	Rogue, Middle Fork near Prospect ^e	45	April – Sept.	74	61
		35	April July	58	60
7282	Rogue, South Fork near Prospect ^e	46	April – Sept.	76	61 62
		40	April —July	65	
7277	Rogue below South Fork	450	April – Sept.	680	66
		365	April – July	553	66
724	Rogue at Raygold near Central Point	590	April – Sept.	905	65
		490	April – July	760	64
7292	Rogue at Grants Pass	550	April-Sept.	852	65
7419	Umpqua, North Fork below Lake Creek ^e	120	April – Sept.	164	73

Assuming narmal meteorological conditions.
 1938 - 52, 15 year period.
 Number of years in 1938 - 52 period.
 Not scheduled.
 Corrected to natural flow.
 Aerial snaw depth gage; water content estimated.
 Report delayed.
 1938 - 39 excepted.



LEGEND

Wotershed Boundory
Sub-watershed Boundory
Soil Conservation District Bdry.
County Boundary
Forecast Point
Snow Course

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	MEASU	JRED (First of Month)		
	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b	
Emigrant Gap Fish Lake Fourmile Lake Hyatt Prairie	8.3 7.8 16.1 16.1	1.5 7.6 14.4 12.0	5.9 5.4 8.7	5.1 4.4 6.7 4.8	

SNOW		CURF	ENT INFORMAT	TION	PAST RECORD		
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	ENT (Inches)	YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
Althouse	4530	1-26	0	0.0	0.8	4.2	14
Annie Spring	6018	1-28	53	14.9	33.4	27.6	14
Big Red Mountain	6500	1-24	34	12.6	27.4	18.2	13
Billie Creek Divide	5300	1-30	21	5.5		13.8	13
Champion	4500	1-26	2	0.5	21.4	17.0	14
Diamand Lake	5315	1-23	10	3.0	17.0	14.8	15
Fish Lake	4865	1-28	3	T	10.2	7.8	15
Fourmile Lake	6000	d					
Grayback Peak	6000	1-31	33	10.8	27.0	14.1	13
Hazel View	2500	1-26	0	0.0			0
Habart Lake	5010	1-26	T	T		6.3	5
Hyatt Prairie Reservair	4900	1-26	T	T	4.4	6.5	15
Little Red Mountain	6500	g					
North Umpqua	4215	1-27	T	T	11.7	9.5	5
Oregan Caves	4000	1-28	0	0.0			0
Page Mountain	4045	1-26	0	0.0	0.2		0
Park Headquarters	6450	1-28	74	21.5	42.7	38.2	7
Scragg Mauntain	6200	g					
Seven Lakes Na. I	6800	g					
Seven Lakes No. 2	6200	g					
Silver Burn	3720	1-29	13	1.9	13.5	8.4	15
Siskiyou Summit	4630	1-25	0	0.0	6.6	5.5	15
South Fork Canal	3500	1-29	5	0.5	0.5	3.2	15
Trap Creek	3800	1-27	0	0.0	7.5	10.3	5
Wagner Butte	6900	g					
Whaleback	5140	1-24	20	6.6	28.3	23.8	13
Windiga Pass	5800	1-20	22	6.4	41.4		2

WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

as of
February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

The 1959 irrigation water supply outlook for the Klamath Basin is below normal but should be sufficient for a good season, primarily because of good stored water supplies.

SNOW-COVER

Water content of the mountain snow-cover is about half normal. In a normal winter there is usually about 55 percent of the total winter's snow-pack on the ground by February 1st. This year, however, the snow accumulation to date is only 26 percent of a normal winter's accumulation.

It is extremely unlikely that future snow storms will "make up" the present shortage of snow-cover in the Klamath Basin.

SOIL-MOISTURE

The mountain soil-mantle is only partially wet and will require some snow-melt water to "prime" it.

RESERVOIR STORAGE

Total water stored in Upper Klamath Lake and the Lost River Reservoirs of Gerber and Clear Lake is 131 percent of normal for February 1. Many small reservoirs and stock ponds are still not filled.

STREAMFLOW

Inflow to Upper Klamath Lake for the six summer months April through September is forecast at 90 percent of normal. Gerber and Clear Lake can expect an inflow about 25 percent normal for the same period. The summer flow of Sprague River and Williamson River is forecast at about 90 percent of normal.

Small streams heading in low elevations will have only a very short flow this season.

Report prepored by

W. T. Frost and. Manes Bartan

U. S Department of Agriculture, Soil Conservation Service 209 S W Fifth Avenue, Portland, Dregon

STREAM or AREA	FLOW	PERIOD	DEMARKS
STREAM OF AREA	SPRING SEASON	LATE SEASON	REMARKS
Ft. Klamath Valley Lost River (Clear Lake) Lost River (Gerber) Lost River (Willow Reservoir) Sprague River Upper Klamath Lake Williamson River	Average Average Average Fair Average Average Average	Fair Average Average Poor Fair Average Average	

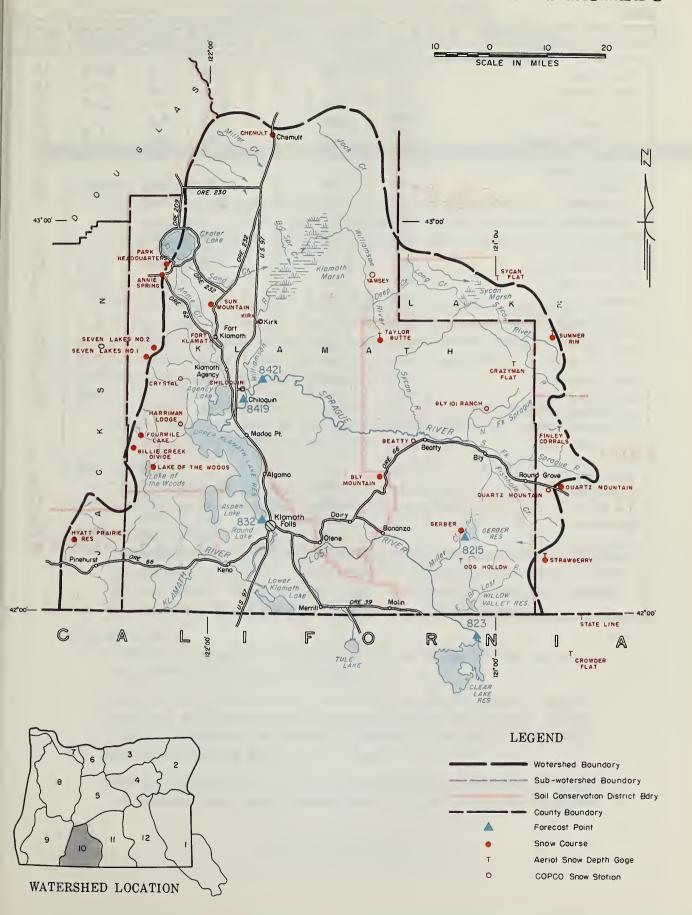
NAME	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL	THIS YEAR AS PERCENT OF NORMAL
Clear Lake Reservoir net ınflow ^h	13 25	April - Sept. March-July	49 86	27 29
Gerber Reservoir net inflow ^h	6	April - Sept. March-July	24 42	25 26
Sprague near Chiloquin	225	April - Sept.	253	89
Upper Klamath Lake net inflow ^h	475 380	April-Sept April-July	526 424	90 90
Williamson below Sprague River	365 305	April-Sept. April-July	406 340	90 90
				111
	Clear Lake Reservoir net inflow ^h Gerber Reservoir net inflow ^h Sprague near Chiloquin Upper Klamath Lake net inflow ^h	Clear Lake Reservoir net inflowh Gerber Reservoir net inflowh Sprague near Chiloquin Upper Klamath Lake net inflowh Williamson below Sprague River 365	Clear Lake Reservoir net inflowh Gerber Reservoir net inflowh Gerber Reservoir net inflowh Sprague near Chiloquin Upper Klamath Lake net inflowh Williamson below Sprague River 13	Clear Lake Reservoir net inflowh 13

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	MEASURED (First of Month)				
NESEN VOIN	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b		
Clear Lake Gerber Upper Klamath Lake	440.2 ¹ 94.0 584.0	286.5 47.4 401.9	311.9 59.7 390.2	189.8 ^j 31.3 ^j 340.3		

*Assuming normal meteorological conditions. *\begin{align*} 1938 - '52, |5 year period. \text{*Number of years in 1938 - '52 period. \text{*Number of years

KLAMATH WATERSHEDS



SNOW	CURR	ENT INFORMAT	TION	PAST R			
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	ENT (Inches)	YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(inches)	LAST YEAR	NORMAL b	RECORD
Annie Spring	6018	1-28	53	14.9	33.4	27.6	14
Beatty (Copco)	4300	1-31	2	0.5	0.2	0.4	15
Billie Creek Divide	5300	1-30	21	5.5		13.8	13
Bly Mountain	5090	1-26	2	0.5	8.6		0
Bly IOI Ranch (Copco)	4800	1-31	4	1.0	2.0	1.7	15
Chemult	4760	1-29	13	3.6	9.5	8.5	15
Chiloguin (Copco)	4187	g	/	700	/*/		-/
Crazyman Flat f	6100	1-30	12	2.5	10.9		0
Crowder Flatf	5200	1-25	2	0.4	4.7	2.7	12
Crystal (Copco)	4200	g			701		
Dog Hollow ^f	4900	1-30	3	0.6	1.6		0
Finley Corrals ^f	6000	1-30	21	4.4	17.2		0
Fort Klamath (Copco)	4150	1-31	6	1.6	6.8	3.6	15
Fourmile Lake	6000	1-28	17	4.6			
Gerber	4850	1-31	2	0.1	3.4		3
Harriman Lodge (Copco)	4200	g					
Hyatt Prairie Reservoir	4900	1-26	T	Т	4.4	6.5	15
Kirk (Copco)	4533	1-31	5	1.5	8.6	5.3	15
Lake of the Woods	4960	1-25	7	2.8	12.0	7.3	15
Park Headquarters	6450	1-28	74	21.5	42.7	38.2	7
Quartz Mountain	5320	1-30	9	2.0	7.5	4.8	14
Quartz Mountain (Copco)	5504	1-30	9	2.2	7.4	5.5	14
Seven Lakes No. I	6800	k			1 0 17		
Seven Lakes No. 2	6200	k					
State Line ^f	5750	1-30	12	2.5	9.4		0
Strawberry	5600	1-28	9	2.0	4.8	5.9	9
Summer Rim f	7200	1-30	21	4.4	12.0		0
Sun Mountain	5350	1-22	16	5.2	27.9	17.7	15
Sycan Flat f	5500	1-30	1	0.2	9.4		0
Taylor Butte f	5100	1-30	6	1.3	6.2	3.4	13
Yamsey (Copco)	4600	1-31	2	0.5	5.2	2.8	14

WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

as of February 1, 1959

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

GENERAL OUTLOOK

The 1959 water supply outlook for the irrigation season in Lake County is extremely poor with the possible exception of the lands served by the Lakeview Water Users Association which has a good supply of stored water in Drews Reservoir.

SNOW-COVER

Water content of mountain snow-cover in Lake County is only 29 percent of the February 1 normal. In a normal winter there is usually about 71 percent (two-thirds) of the total winter's snow-pack on the ground by February 1st. This year, however, the snow accumulation to date is only 22 percent of a normal winter's total.

It is possible, although highly unlikely, that future snow storms will "make up" the present shortage of snow-cover without which the summer flow of Lake County streams will be drastically reduced.

SOIL-MOISTURE

The soil-mantle in the upper watersheds, under the snow-pack, is only partially wet and some snow-melt will go to "prime" these soils.

RESERVOIRED WATER

Drews Reservoir already has a good supply 116 percent of normal. Gates on Cottonwood have been closed and 680 acre feet have been stored there. Although Renner Reservoir is full, other small reservoirs such as Albertson, Strawberry and Flyn have very little water in them at present.

STREAMFLOW

Forecasts of seasonal streamflow for Lake County are all very low and range from 40 to 60 percent of normal.

Inflow to Drews Reservoir is forecast at 41 percent of normal which will bring only 18,000 acre feet in the period March through July. Deep Creek is forecast at 60 percent of normal; Twenty-Mile Creek at 52 percent; and Honey Creek at 58 percent.

Summer Rim snow course, high on the Chewaucan watershed, has only 4.4 inches of snow water compared with 12 inches at this date last year.

Report prepared by .

W.T. Frost and Mones Borton
U. S. Department of Agriculture, Soil Conservation Service
209 S. W. Fifth Avenue, Partland, Oregon

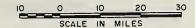
STREAM or AREA	FLOW P	ERIOD	REMARKS
o mean of anea	SPRING SEASON	LATE SEASON	REWARKS
Chewaucan River	Fair	Poor	
Crooked Creek	Fair	Poor	
Deep Creek	Fair	Poor	
Dry Creek	Poor	Poor	
East Side Goose Lake	Poor	Poor	
Guano Lake	Poor	Poor	
Honey Creek	Fair	Poor	
Lakeview Water Users Association	Average	Fair	
Rock Creek	Poor	Poor	
Silver-Buck Creeks	Fair	Poor	
Summer Lake	Fair	Poor	
Thomas Creek	Fair	Poor	
Twentymile Creek	Fair	Poor	
Warner Lakes	Fair	Poor	

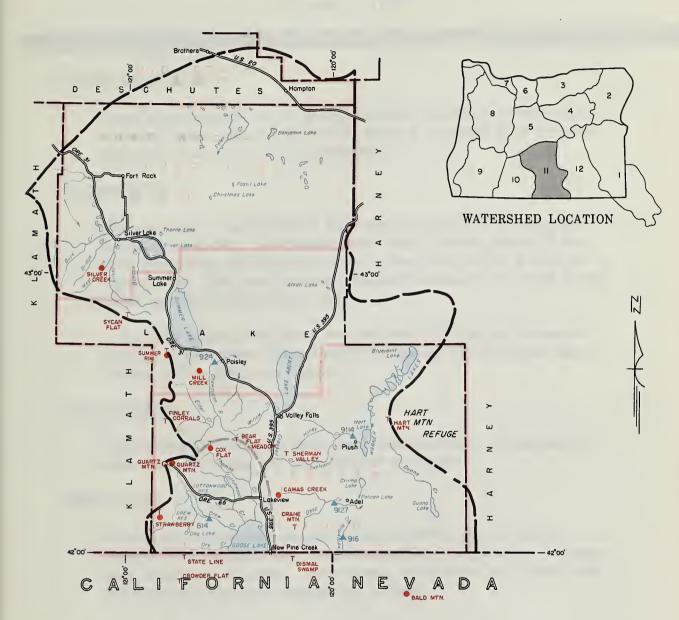
	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL ^b	THIS YEAR AS PERCENT
NO.	NAME	THIS TEAR	PERIOD		OF NORMAL
924	Chewaucan near Paisley	d	April — June	73	
9127	Deep above Adel	40	April — June	67	60
814	Drew Reservoir net inflow	d	April - July	30 h	
		18.0	March — July	44 ^h	41
9114	Honey near Plush	9.0	April — June	15.6 ⁱ	58
916	Twentymile near Adel	11.0	April — June	21 ⁱ	52

SNOW		CURR	ENT INFORMAT	LION	PAST R	ECORD)
SNOW COURSE			SNOW DEPTH	WATER	WATER CONTENT (Inches)		YEARS OF C
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	RECORD
Bald Mountain	6720	d					
Bear Flat Meadow ^f	5900	1-30	12	2.5	5.7		0
Camas Creek	5720	1-27	7	1.3	10.0	7.5	14
Cox Flat ^f	5750	1-30	9	1.9	9.4		0
Crane Mountain ^f	6020	1-30		1.9	7.8		0
Crowder Flat ^f	5200	1-25		0.4	4.7	2.7	12
Dismal Swamp ^f (Calif.)	7000	1-30		5.7	11.7		0
Finley Corrals ^f	6000	1-30		4.4	17.2	destile	0
Hart Mountain ^f	6350	1-30		0.4	0.8	2.3	5
Mill Creek	6200	d					
Quartz Mountain (COPCO)	5504	1-30	9	2.2	7.4	5.5	14
Quartz Mountain	5320	1-30	l .	2.0	7.5	4.8	14
Sherman Valley ^f	6600	1-28		2.5	9.4		0
Silver Creek	4900	1-28		0.8	4.6	2.9	12
State Line ^f	5750	1-30		2.5	9.4		0
Strawberry	5600	1-28		2.0	4.8	5.9	9
Summer Rim f	7200	1-30		4.4	12.0		0
Sycan Flat ^f	5500	1-30		0.2	9.4		0

**Assuming normal meteorological canditions. **1938-'52, 15 year period. **Number of years in 1938-'52 period. **Normal meteorological canditions. **1948-'52, 15 year period. **Number of years in 1938-'52 period. **Normal meteorological canditions. **Page 1938-1949 excepted. **In 1949 excepted. **In 1949

LAKE COUNTY, GOOSE LAKE WATERSHEDS



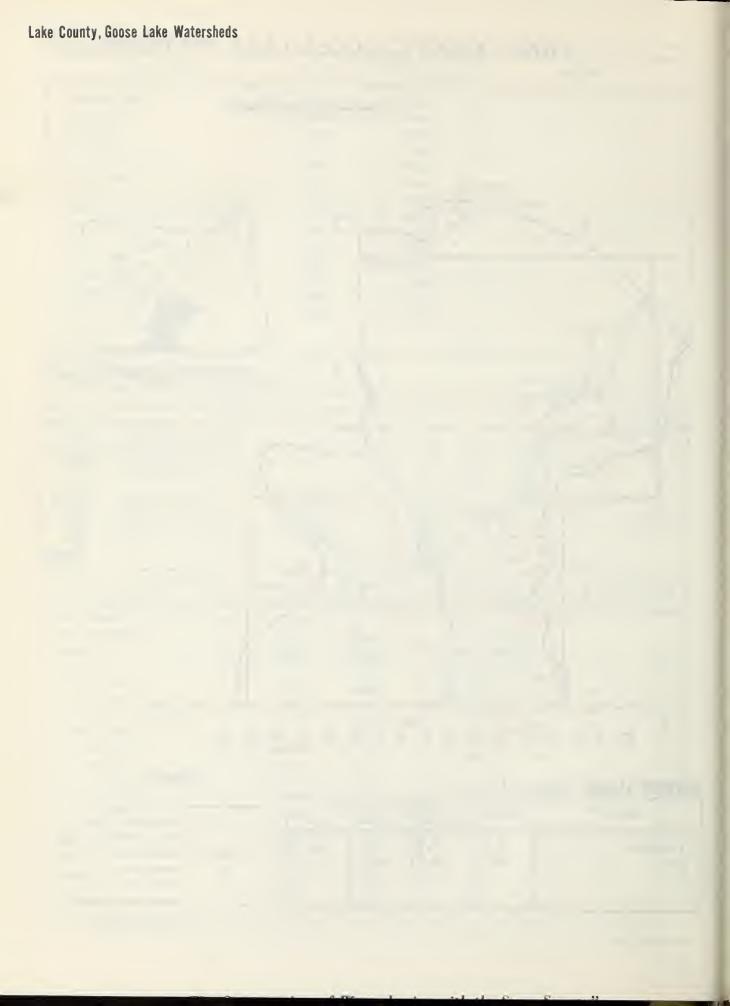


RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	MEASURED (First of Month)				
N23211V3III	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b		
Cottonwood Drew	4.1 62.5	0.7 40.8	0 48•8	0.1 i 35.2 k		

LEGEND





WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

as of February 1, 1959

II S DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT

GENERAL OUTLOOK

Water supply outlook for the spring and summer months in Harney Basin is extremely poor. Flow of the Silvies River is expected to be extremely short and other streams will be comparable.

SNOW-COVER

Water content of snow-cover in the mountains is only 35 percent of the February 1st normal. In a normal winter there is usually about 69 percent (two-thirds) of the total winter's snow-pack on the ground by February 1st. This year, however, the snow accumulation to date is only 23 percent of a normal winter's total.

It is highly unlikely that future snow storms will "make up" the present shortage of snow-cover without which the summer flow of Harney Basin streams will be drastically reduced.

SOIL-MOISTURE

The soil-mantle is only partially wet in Harney County watersheds and some snow-melt water will go to "prime" these soils.

STREAMFLOW

Flow of all Harney Basin streams during the 1959 irrigation season is forecast much below normal. The Silvies River is expected to discharge only 26 percent of normal. Silver Creek, The Blitzen, and Trout Creek are expected to be about equally low in runoff.

Report prepared by:

W. T. Frast and Manes Bartan

U. S. Department of Agriculture, Sait Conservation Service 209 S. W. Fifth Avenue, Portland, Oregon

STREAM or AREA	FLOW P	ERIOD	REMARKS
STITEALS OF AIREA	SPRING SEASON	LATE SEASON	REWARKS
Catlow Valley Cow Creek	Fair Poor	Poor Poor	
Donner und Blitzen River Mill- Coffeepot Creeks Rottlesnake Creek Silver Creek Silvies River Soldier- Prather Creek Trout Creek Whitehorse Creek	Fair Poor Poor Fair Fair Poor Fair Poor	Poor Poor Poor Poor Poor Poor	
			V C

NO.	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL	THIS YEAR AS PERCENT OF NORMAL
		d	·		OF WORMAL
953	Donner und Blitzen near Frenchglen	u	April - Sept.	66	
966	Silvies near Burns	27	April - Sept.	102	26
974	Trout near Denio	d	April ⁻ Sept.	9.6	
				10.0	

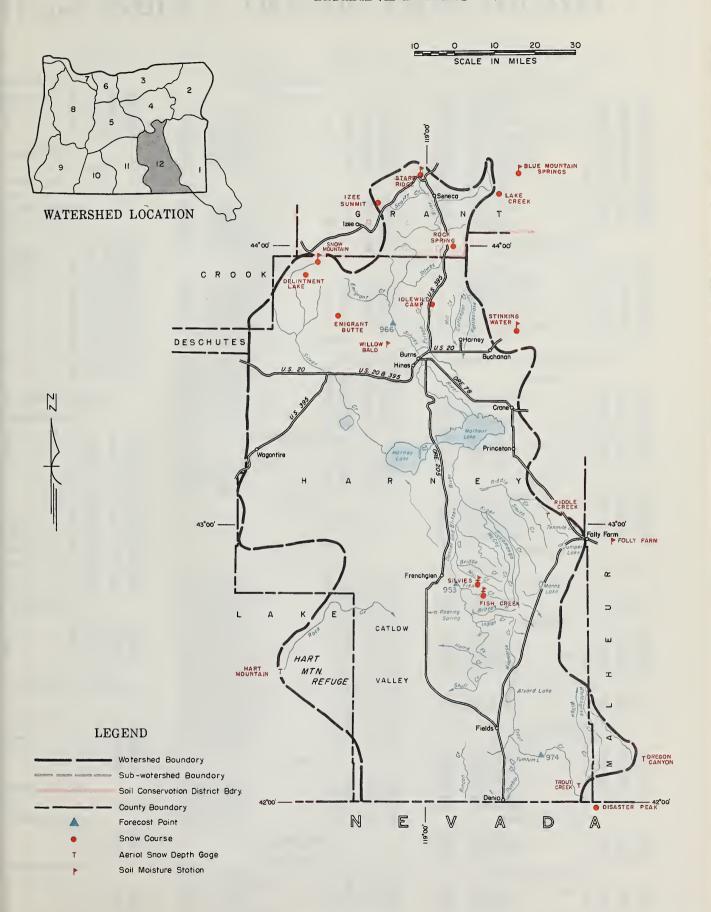
SNOW	CURF	CURRENT INFORMATION			PAST RECORD		
SNOW COURSE NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONT	ENT (Inches)	YEARS OF C RECORD
Blue Mountain Springs Delintment Lake Disoster Peak Emigrant Butte Fish Creekt Hort Mountainf Idlewild Comp Izee Summit Lake Creek Riddle Creekf Rock Springf Silviest Snow Mountain Starr Ridge Stinking Water Trout Creekf	5900 5600 6500 5000 7900 6350 5293 5120 5800 5100 6900 6300 5150 4800 7800	1-28 d d 1-28 1-30 1-30 1-27 1-29 1-26 1-28 d 1-30 1-29 1-28	33 2 0 8 13 6 4 9	7.3 0.4 0.0 2.5 3.7 1.3 1.0 2.0	14.7 0.8 6.5 7.2 9.5 5.8 4.8 4.6	10.2 2.3 4.0 6.0 4.4 4.3 3.6	14 0 55 15 3 0 15 0 15 15 0

^{**}Assuming narmal meteoralogical conditions. **\text{91938-'52, 15 year period.} **Number of years in 1938-'52 period. **Anot scheduled. **Corrected to natural flow. **

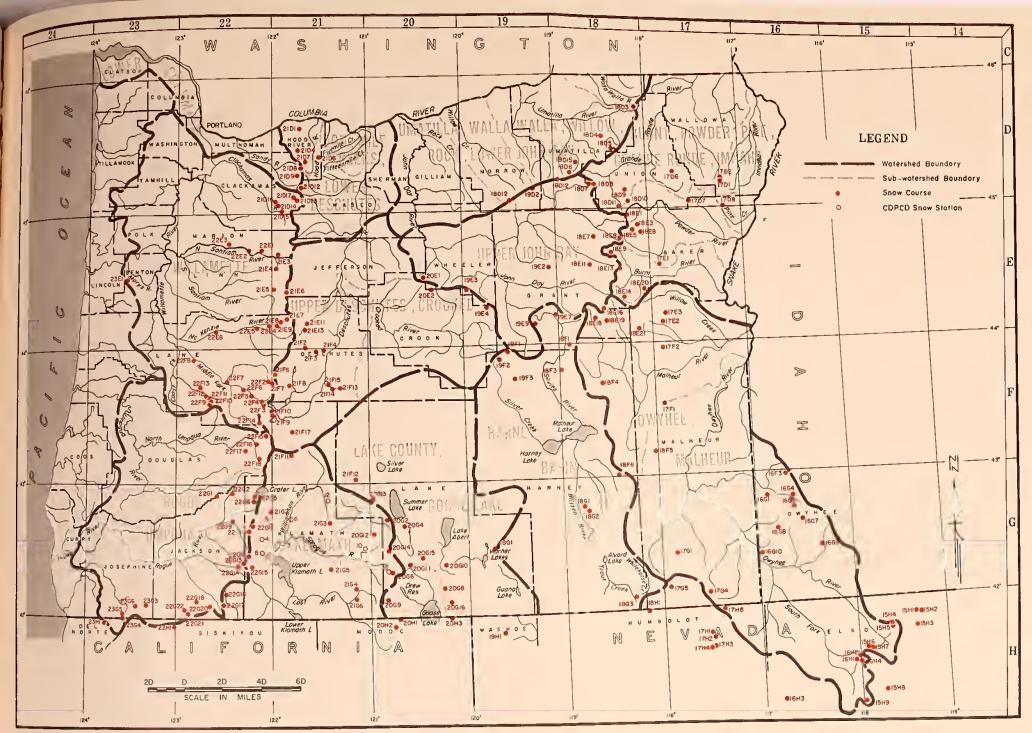
**Aeriol snow depth gage; water content estimated. **

Report delayed.

HARNEY BASIN WATERSHEDS





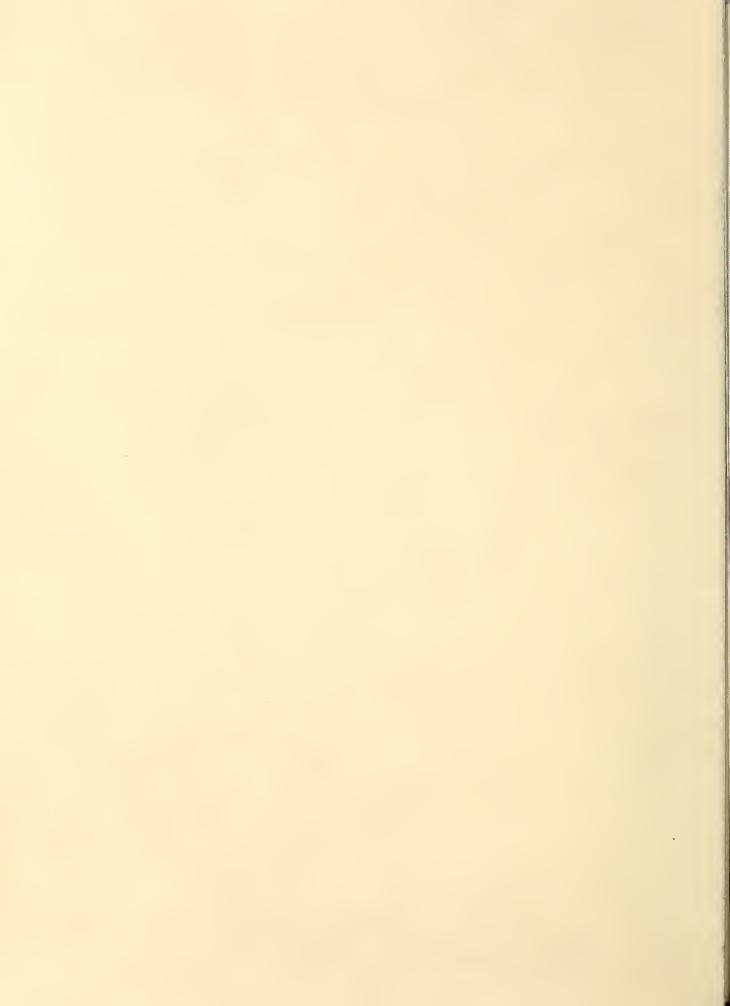


Nome	Lacation Elev Sec T⇔p Rge	Number Name	Location Elev Sec Two Rge	Number Nome	Location Elev Sec Twp Rgs	Number Name	Location Ele Sec Twp Rge
1521 Bear Creek (Ne 1522 Big Bend (Ne 1782 Buckskin, Lower (Ne	26 27S 38E 4200 la) 10 11S 1E 5700 lv) 31 46N 58E 7800 lv) 30 45N 56E 6700 lv) 25 45N 39E 6700	OWYHEE RIVER (Con 17M6 Quinn Ridge (Nev) 15H6 Rodeo Flat (Nev) 15H3 76 Creek (Nev) 17F1 Shumway Ranch 16F3 Silver City (Ida) 1861 Silvies 1661 South Mountain No. 2 (Ida)	9 47N 41E 6300 36 43N 53E 6800 6 44N 58E 7100 29 23S 39E 4400 6 5S 3W 6400 35 32S 32E 6900 35 7S 5W 6340	BURNT, POWDER, PINE, RONDE, IMNAHA WATER SURNT RIVER 18E14. Sarney Creek 18E13 Slue Mountain Summit 17E1 Dooley Mountain 18E20 Eldorado Pass	16 14s 36E 5950 6 12s 36E 5098 32 11s 40E 5430 20 14s 38E 4600	GRANOE RONDE R 1701 Ameroid Lake No. 1 1702 Ameroid Lake No. 2 1851 Anthony Lake 1809 Seaver Reservolr 18011 Camp Careon 1808 County Line 1806 Lucky Strike 1806 Meacham	16 48 45E 744 16 48 45E 70 18 75 37E 71 8 5S 37E 73 33 6S 36E 59 28 4S 34E 48 28 3S 32E 50 24 & 25 1S 35E 43
Jan Pall Basin (1d last Disaster Peak (Ne last Pish Creek 1382 Fox Creek 1387 Fox Canyon (Ne last Peak 1387 Gold Creek 1887 Conditions of the last Peak 1887 Cold Creek 1887 Cold Creek 1888 C	la) 29 125 6W 5600 av) 8 47N 34E 6500 4 33S 33E 7900 av) 33 46N 58E 6800 ev) 31 43N 54E 6700	15M9 Taylor Canyon (Nev) 15M8 Tremewan Ranch (Nev) 16GL *Triangle (Ida) 18G3 Trout Creek MALHEUR RIVER	9 39N 55E 5700 25 7S 3W 5150 10 41S 38E 7800	18E8 Gold Center 18E9 Tipton POWDER RIVER	34 10s 35 E 5100	1706 Moss Spring 1807 Schoolmarm 18010 Summit Springs 1707 Taylor Green 1803 Tollgate	28 3S 41E 58: 28 4S 34E 47' 9 6S 37E 6X 3 6S 42E 571 32 4N 38E 50'
frante Peak (Ne. 1701 Highway Camp 1605 siyde Pasture Jack Creek, Lower (Ne. 1682 Jack Creek, Upper (Ne. 1682 Jack Creek, Upper (Ne. 1682 Jack Leek, Upper (90) 31 45N 56E 6600 90) 22 44N 39E 7800 36 365 41E 4300 da) 31 8S 2W 5800 90) 18 42N 53E 6800 90) 9 42N 53E 7250	lEB14 Barney Creek 18E16 Blue Mountain Spring 17E3 Bonita 18E21 *Bully Creek 17E2 Clover Creek 17E2 *Cottonwood-Indian	16 148 36E 5950 21 158 35E 5900 5 168 40E 4600 10 178 37E 5300 36 168 39E 4100 10 198 39E 4320	18E1 Anthony Lake 18E5 Bourne 17E1 Dooley Mountain 18E3 Eilertson Meadows 18E8 Gold Center 18E6 Goodrich Lake	33 85 37E 5800 32 115 40E 5430 18 85 38E 5400 21 95 36E 5340 4 95 38E 6775	INNAHA RI 1701 Ameroid Lake No. 1 1702 Amerold Lake No. 2	16 48 45E 74 16 48 45E 70
1783 Hartin Creek (No. 1667 Hidas (No. 1668 Whichal Cr.	ov) 28 42N 53E 8420 27 4OS 44E 6440 ev) 18 44N 40E 6700 ov) 18 39N 46E 7200 da) 34 9S 2W 5500 da) 23 10S 4W 5450 9 40S 40E 7240	18E19 Crane Prairie 18E20 Eldorado Pass 18E18 Lake Creek 18F6 Piddle Creek 18F1 Rock Spring 17F1 Shumway Ranch 18FL Stinking Water	24 165 34E 5375 20 145 38E 4600 10 165 33½E 5120 21 298 35E 5800 23 185 32E 5100 29 235 39E 4400 33 215 34E 4800	18D10 Summit Springs 1707 Taylor Green PINE CREEK 17D8 Schneider Meadows	9 6S 37E 6000 3 6S 42E 5740 35 6S 45E 5400	UMATILLA, WALLA WALLA LOWER JOHN DAY W. UMATILLA F 19D2 Arbuckle Hountain	ATERSHEDS (3)

MAP and INDEX to OREGON SNOW COURSES

	Number	Name	Lazation Sec Two Rge	Efev	Number	Name	Location Sec Twp Rge	Elsv	Number	Name	S	Locatio ic Twp		Elev
		UMATILLA RIVER (Cont	'd.)			WILLAMETTE WATERSHED	S (e) 2			KLAMATH RIVER (Cont'd,)		
	1804 1806 18015 1805	Enigrant Springs Lucky Strike Pearson Creek Meacham 24 & Tollgate WALLA WALLA RIVER	25 1S 35E 32 4N 38E	5050 3000 4300 5070	21015 21013 21012 21016 21014 2108 2109 21017	Clackamas Lake Clear Lake Lake Harriet Peavine Rĭdge Pblox Point	35 59 8 29 45 4 68 15 68 6 38	7E 2118 34G 3400 9E 3500 7E 2045 7E 2045 7E 5600 34E 3700 8E 3295	20H2 21C6 20C14 22C12 21C4 22C16 22C15 22C5 20C6 22C10 22C11	*Dog Hollow *Finley Corrala Fourmile Lake Gerbor Hyatt Prairle Rocervoir Lake of the Woods Park Headquartora Quartz Mountain Seven Lakes No. 1 Seven Lakes No. 2	11 9 12 15 11 8 2 3	408 368 368 398 398 378 318 388 348 338	14E 10E 5E 13E 3E 5E 6E 16E 5E	4900 6000 4850 4960 4960 6450 5320 6800 6200
	1902		33 45 29E	5400		SANTIAM RIVER			20H1 20G9	*State Line (C Strawberry	(al) 21 4	48N 40S	11E 16E	5750 5600
	18E1 1902 18012	Arbuckle Mountain Sattle Mountain Summit	TER 18 7S 37E 33 4S 29E 29 3S 31E	5400 4340	22E1 22E2 21E6 21E4 22E3 21E5 21E3	Marion Forka Mill City Santiam Junction	7 103 24 13S 7 28 11S 29 9S 14 13S	5E 1500+ 5E 1580 7E 4755 7E 2730 3E 826 7E 3990 7E 2175		Summer Rim Sun Mountain *Sycen Flet Taylor Sutte THE CALIFORNIA POGER OMPAN'S SNO	22 25 16 OREGON	33S 32S 31S 33S	73E	5350 5500
	19E2 18E16	Seech Ureek Summit Blue Mountain Spring	4 12S 30E 21 15S 35E	4800 5900		McKENZIE RIVER			1	Beatty (COPCO)	22	36\$		
	19E3 18E11 18E8 19E9	Derr Oixie Springs Cold Center Izee Summit Lucky Strike Marks Creek Ochoco Meadows	6 12S 36E 14 13S 23E 28 11S 34E 21 9S 36E 28 16S 29E 28 3S 32E 25 12S 19E 21 13S 20E 14 9S 33½E	5340 5293 5050 4540 5200	21E8 22E4 21E7 22E5 22E6 21E9	Lost Creek Ranch McKenzie McKenzle Bridge Vlda	24, 168 35 158 1 13 168 28 168 15 168	7E 3800 6E 1746 7ÈE 4800 5E 1372 2E 800 7E 2800	5 8 6	8ly 101 Ranch (COPOO) Chlloquin (COPCO) Crystal (COPCO) Fort Klamath (COPCO) Herriman Lodge (COPCO) Kirk (COPCO) Quartz Mountain (COPCO) Yamsey (COPCO)	26 22 3 1	359 349 338 369 338 378 318	7E 6E 7½E 6E 7E 16E	4187 4200 4150 4200 4533 5504
	18D7 19F1	Schoolmarm Snow Mountain	28 45 34E 1 19S 26E	4775 6300	22F3	Caacade Summit	7 235	6E 4880	U	AKE COUNTY, GOOSE LAK	E WATER	SHEDS	(11)	
			20 155 31E 34 10S 35 E		21F7 22F6 22F8		23 21S 36 21S 13 19S	6E 5750 4E 2120 1W 750		GOOSE LAK			,.,,	
	U	IPPER DESCHUTES, CROOKED W	ATERSHEDS (5)	22F7 22F5	Oakridge Railroad Overpase	16 21S 27 22S	3E 1310 5E 2750		*Bear Flat Headow		368 398	19E 21E	5900
		UPPER DESCHUTES RIT	/ER		22F4 22F2 22F14	Waldo Lake	33 228 15 218 33 248	6E 4000 6E 5500 5ÈE 5600	20G8 20G11 20G16	*Crane Mountain	16 13	37S 40S	18E 21E	5750 6020
	21E11 21F8 22F3		14 16S 9E 30 21S 8E 7 23S 6E	4400		COAST FORK WILLAMETTE	RIVER	-	20H2 20H3 20G6 20H1	*Oiamal Swamp (Co Quartz Mountain	al) 30 al) 31 2 al) 21	48N 38S		7000 5320
	21F7 21F11	Charlton Lake Chemult	23 21S 6E 21 27S 8E	5750 4760		Layng Croek R. S.	12 23S 1 23S 31 21S	1E 4500 1E 3136 1E 1200	2009	Strawberry			16E	
	21F9 21F14 21E6	Crescent Lake Fire Road Hogg Pass	11 24S 6E 36 21S 11E 24 13S 73E			Lund Park Weaver Creek		1E 1740 1E 2440	20016	ASERT LAK		36S	10F	6900
	21F4 21F6 21F17	Hungry Flat lrish-Taylor Mowich	30 18S 1ÎE 25 20S 6E 29 25S 8E	4400	23El	MARY'S RIVER Mary's Peak	21 128	7W 3620	20011 20014 2004	Mill Creek	11	37S 36S 34S	18E 10E 17E	575D 6000 6200
	21F2	New Crescent Lake New Dutchman Flat Paulina Laka		6400		ROGUE, UMPQUA WATERS	HEDE		20G6 20G10	Quartz Mountain *Sherman Valley		385 378		
		Peulina Prairle Tangent	28 21S 11E 28 18S 10E	4285 5400		ROGUE RIVER	LLCD2 (9)			SUMMER LAI	Œ			
	21E13 22F2 22F14	Waldo Lake	3 17S 9E 15 21S 6E 33 24S 5}E	5500		Althouse	17 41S	7W 4530	20G2	Summer Rim SILVER LAK		33S	16E	7200
		Windigo Pass		5800	0.0003	Ol - Ded Heustade	19 31S 31 40S 30 36S	6E 6018 1W 6500 5E 5300	21F12			293	13E	4900
		CROOKED RIVER			22G14 22C12	Fish Lake Fourmile Lake	3 37S 9 36S	4E 4865 5E 6000	20013	*Sycan Flat WARNER LAN	25 (E	313	14E	5500
,	19E3 20E1 20E2 19F1 19E4	Oerr Marks Creek Ochoco Meadows Snow Mountain Tamarack	14, 13S 23E 25 12S 19E 21 13S 20E 1 19S 26E 8 15S 25E	5670 54540 5200 6300 4800	2363 23H1 22C17 22G16 22G22 23G6 23G5	Signed Mountain Sillie Creek Olyide Fish Lake Fourmile Lake Crayback Peak Hazel Viow (Cal) Hobart Lake Hyett Pralrie Reservoir Little Red Mountain Oregon Cavee Page Mountain Park Headquarters Scragg Mountain Seven Lakes No. 1 Seven Lakes No. 2 Silver Surn Slskiyou Summit South Fork Canal Wagner Sutte Whaleback UMPQUA RIVER Champion Diamord Lake North Umpqua Trap Creek Whaleback Windigo Paaa	9 48N 17 40S 15 39S 25 40S 16 40S 8 41S	4E 2500 3E 5010 3E 4900 2W 6500 6W 4000 7W 4045	2008 20016 20H3 19C1 20G10	Camas Creek *Crane Hountain *Olenal Swamp (C *Hart Hountain *Sherman Valley	5 13 al) 31 1 15	398 408 48N 36S 37S	21E 21E 16E 25E 21E	5720 6020 7000 6350 6600
	HOOD	, MILE CREEKS, LOWER DESCHU	JTES WATERSHI	DS (e)	2205 22H1	Park Headquarters Scragg Mountain (Cal)	8 31S 9 47N	6E 6450 10W 6200		CUANO LAK Bald Mountain (N *Hart Mountain	E			
		HOOD RIVER			22G10 22G11 22G2	Seven Lakes No. 1 Seven Lakes No. 2 Silver Surn	26 338 30 308	5E 6200 4E 3720	19H1 19C1	Bald Mountain (N *Hart Mountain	ev) 17	45N 36S	21E 25E	6720
0	2106		2 2S 10E	£ 4300	22020 2209	Slakiyou Summit South Fork Canal	17 40S 12 33S	2E 4630 3E 3500		HARNEY BASIN WATE	RSHEDS	(12)		
0	2101 2108 2104 2109 2107	Brooks Meadows Creenpoint Reservoir Phlox Point Red Hill Still Creek Tilly Jane	28 2N 9E 6 3S 9E 21 1S 9E 25 3S 8 15 2S 9E	3400 5600 4400 3700 6000	22G18 22G1	Wagner Sutte Whaleback UMPQUA RIVER	1 409 3 318	1W 6900 2E 5140	19F2 19F3 18F3 19E9	Oclintment Lake Emigrant Sutte Idlewild Camp Izee Summit	28 14 33 28	195 215 205 165	26E 27E 31E 29E	5600 5000 5200 5293
0		MILE CREEKS - MOSIER			22F18 22F16	Diamond Lake North Umpqua	29 278 19 263	6E 5315 6E 4215	19F1 19E7	Snow Mountain Starr Ridge	1 20	19S 15S	26E 31E	6300
0	2106	8rooks Meadows LOWER OESCMUTES RI		4300	22F17 22G1 22F15	Trap Creek Whaleback Windigo Pasa	1 279 3 315 20 25S	4E 3800 2E 5140 6E 5800	1854	Stinking Water OOMNER UNO SLITZ	33 EN RIVE	215	34E	4800
0	21012 21E6	Clear Lake Hogg Pase	29 45 9E 24 135 72E	3500 4755		KLAMATH WATERSHEDS	(10)		1802 1901 1866	Fieh Creek "Hart Mountain Riddle Creek Silviee	1 21	33S 36S 29S	33E 25E 35E	7900 6350 5800
•		LOWER COLUMBIA WATER:	SHEDS (7)			KLAMATH RIVER	10 210	AF AMB	18G1	TROUT AND WHITEHOU	SE CREF	XS	222	0900
		SANOY RIVER			22G6 22C13	Annie Spring Billie Creek Divlde Bly Mountain 15 &	30 36S 22 37S	5E 5300 11E 5090	1811	Oleaster Peak (N	ev) 8	47N	34E	6500
0	21D8 21D9	Phlox Point Still Creek	6 3S 9E 25 3S 82E	5600 3700	21F11 20G12	Annie Spring Billie Creek Divlde Bly Kountain Chemult *Crazyman Flat	21 27S 9 34S	8E 4760 15E 6100	17G5 18G3	Oregon Canyon Trout Creek	9	405	40E 38E	7240 7800
											7-	S - 19	910	1-0

"hersal snow depth gage



CORRECTIONS - SNOW MAP AND INDEX

NEW SNOW COURSES (Too late for map entry)

Number	Name		ocatio		Elev.
OWYHE	E RIVER	Sec.	Twp.	Rge.	
18G7	*"V" Lake	31	35 2S	32¾E	6600
MALHE	UR RIVER				
18F7 18E22	*Call Meadows *Logan Valley	29 13	20S 16S	33E 33½E	5340 5100
HOOD	RIVER				
21D2O 21D21	Pineball Springs Urich Ranch Junction	31 28	1S 1S	llE llE	3850 3350
MILE	CREEKS - MOSIER CREEK				
21D2O 21D21	Pineball Springs Urich Ranch Junction	31 28	18 18	11E 11E	3 8 50 3350
UMPQU	A RIVER				
22F19	Diamond-Crater Summit	34	2 8 S	6E	5800
KLAMA	TH RIVER				
22G24 22F19 21F18 22G25	Cold Springs Camp Diamond-Crater Summit Diamond Lake Jct. (97) Pelican Guard Station	12 34 1 9	35S 28S 29S 36S	6E	6100 5800 4600 4150
SILVI	ES RIVER - SILVER CREEK				
18F7	*Call Meadows	29	208	33E	5340
DONNE	R UND BLITZEN RIVER				
18G7	*"V" Lake	31	35 ½ S	32 ¾ E	6600
TROUT	and WHITE HORSE CREEKS				
18G6	*Denio Creek	14	418	34 E	6000

ERRATA

16G10	*Bull Basin - should read Range 5 west.
18F6	*Riddle Creek - is aerial snow depth gage.
17G5	*Oregon Canyon - is aerial snow depth gage.
18G5	*Trout Creek - is aerial snow depth gage and
	is shown incorrectly as 18G3.
18D12	Shown in 19 D block on map should be deleted.

H

The following organizations cooperate in the Oregon Snow Survey work:

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and Corps of State Watermasters

Oregon State Highway Engineers
Soil Conservation Districts of Oregon

FEDERAL

Department of Agriculture Cooperative Extension Service Forest Service Soil Conservation Service

Department of Commerce

Weather Bureau

Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service

Department of National Defense Corps of Army Engineers

PUBLIC UTILITIES

California-Pacific Utilities Company Pacific Power and Light Company Portland General Electric Company The California Oregon Power Company

MUNICIPALITIES

City of Baker City of La Grande City of The Dalles City of Walla Walla

IRRIGATION DISTRICTS

Associated Ditch Companies Central Oregon Irrigation District Deschutes County Municipal Improvement District East Fork Irrigation District Grants Pass Irrigation District Jordan Valley Irrigation District Lakeview Water Users, Incorporated Medford Irrigation District North Board of Control - Owyhee Project North Unit Irrigation District Ochoco Irrigation District Rogue River Valley Irrigation District South Board of Control - Owyhee Project Talent Irrigation District Vale-Oregon Irrigation District Warmsprings Irrigation District

PRIVATE ORGANIZATIONS

Amalgamated Sugar Company
The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Ross Bldg. 209 S. W. 5th Ave.
PORTLAND 4, OREGON

OFFICIAL BUSINESS

First Class Mail

Federal - State - Private
COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"